

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.05.95  
Test oil : ISO 4113

Combination No. : 0 402 946 302

Injection pump  
Pump designation : PES6P120A720LS8514  
EP type number : 0 412 926 210

Governor  
Governor design. : RQV250...950PA1209K  
Governor no. : 0 421 815 972

Cust. part No. : 1369074

## Customer-spec. information

Customer : SCANIA  
Motor : DSC1206

## TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 4.00  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

Start of delivery blocking

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 825

Rack travel in mm : 13.45  
Tolerance mm : +- 0.05

Del. quantity  
cm³/1000 strokes : 375.0

Tolerance  
cm³/1000 strokes : +- 1.0

Check tolerance  
cm³/1000S. : +- 4.0

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

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Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 4.60  
 Tolerance mm : + - 0.30

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.67  
 Tolerance mm : + - 0.25

Rated speed rpm : 1017  
 guide sleeve  
 travel mm : 9.08  
 Tolerance mm : + - 0.25

Rated speed rpm : 661  
 guide sleeve  
 travel mm : 5.50  
 Tolerance mm : + - 0.25

Rated speed rpm : 302  
 guide sleeve  
 travel mm : 2.44  
 Tolerance mm : + - 0.25

Rated speed rpm : 352  
 guide sleeve  
 travel mm : 3.14  
 Tolerance mm : + - 0.25

Rated speed rpm : 390  
 guide sleeve  
 travel mm : 3.50  
 Tolerance mm : + - 0.25

Rated speed rpm : 1310  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

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##### GUIDE SLEEVE POSITION

Rated speed rpm : 1154  
 Rack travel in mm : 12.45  
 Tolerance mm : + - 1.30

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##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 825  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 375.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

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##### RATED SPEED

control lever  
 position degree : 61.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 115.0  
 tolerance degree : + - 4.0

rack travel mm : 11.70  
 Rated speed rpm : 995  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1110  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1200

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##### LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : + - 4.0

control lever  
position degree : 18.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 4.60  
Tolerance mm : + - 0.30

Rated speed rpm : 150

CRT mm min. : > 5.65

Rated speed rpm : 275

#### TORQUE CONTROL

Rated speed rpm : 825  
rack travel mm : 13.45  
Tolerance mm : + - 0.05

Rated speed rpm : 650  
rack travel mm : 12.55  
Tolerance mm : + - 0.10

Rated speed rpm : 950  
rack travel mm : 12.75  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 825  
Pressure hPa : 1500  
rack travel mm : 13.45  
Tolerance mm : + - 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 825  
rack travel mm : 7.30  
Tolerance mm : + - 0.20

Rated speed rpm : 825

Pressure hPa : 435  
rack travel mm : 8.90  
Tolerance mm : + - 0.15

Pressure hPa : 700  
rack travel mm : 10.10  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 170  
Check speed 1/min : < 190

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 650  
Del. quantity cm<sup>3</sup>/1000 strokes : 378.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : 1500  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 331.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 15.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 995  
Tolerance 1/min : + - 5

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#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.20  
Tolerance mm : + - 0.50

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#### LOW IDLE

Rated speed rpm : 250  
rack travel mm : 4.60  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 16.03.94  
Test oil : ISO 4113

Combination No. : 0 403 444 145

Injection pump  
Pump designation : PES4MW100/320RS1199  
EP type number : 0 413 404 112

Governor  
Governor design. : RQV300...1100MW131K  
Governor no. : 0 420 083 987

Cust. part No. :

## Customer-spec. information

Customer : PERKINS  
Motor : VME  
Power KW : 74.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 100

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 3.35  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

## Start of delivery blocking

\*NW before FB : 48.50

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 128.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.78  
Tolerance mm : + 0.25

Rated speed rpm : 1156  
guide sleeve  
travel mm : 10.48  
Tolerance mm : + 0.25

Rated speed rpm : 738  
guide sleeve  
travel mm : 5.47  
Tolerance mm : + 0.25

Rated speed rpm : 312  
guide sleeve  
travel mm : 1.92  
Tolerance mm : + 0.25

Rated speed rpm : 362  
guide sleeve  
travel mm : 2.52  
Tolerance mm : + 0.25

Rated speed rpm : 410  
guide sleeve  
travel mm : 3.05  
Tolerance mm : + 0.25

Rated speed rpm : 1340

guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1170

Rack travel in mm : 16.50  
Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100

Aneroid pressure  
hPa : 900

Del. quantity  
cm<sup>3</sup>/1000 strokes : 128.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

##### RATED SPEED

control lever  
position degree : 117.0  
tolerance degree : + 4.0

rack travel mm : 11.90  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1225  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1300

##### LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 6.20  
Tolerance mm : + - 0.10

Rated speed rpm : 200  
CRT mm min. : > 7.50  
Rated speed rpm : 415

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.95  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 12.50  
Tolerance mm : + - 0.10

Rated speed rpm : 500  
rack travel mm : 11.30  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1100  
Pressure hPa : 900  
rack travel mm : 12.95  
Tolerance mm : + - 0.10

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.30  
Tolerance mm : + - 0.10

Rated speed rpm : 1100

Pressure hPa : 225  
rack travel mm : 11.15  
Tolerance mm : + - 0.15

Pressure hPa : 150  
rack travel mm : 9.75  
Tolerance mm : + - 0.05

##### START CUT-OUT

Rated speed rpm : < 230  
Check speed 1/min : < 250

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 300  
Del. quantity cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure hPa : 900  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.5  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 3.0

#### BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 7.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 10.0

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LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.08.95  
Test oil : ISO 4113

Combination No. : 0 403 474 0084

Injection pump  
Pump designation : PES4MW100/720RS1181  
EP type number : 0 413 404 107

Governor  
Governor design. : RSV400...1000MW1A333  
Governor no. : 0 420 085 118

Cust. part No. :

### Customer-spec. information

Customer : LIEBHERR  
Motor : D 914 T  
Power KW : 106.0

### TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 3.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.65  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 137.5

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance  
cm³/1000S. : + 4.0

Spread  
Tolerance  
cm³/1000 strokes : 4.0

Check tolerance  
cm³/1000S. : 7.5

Rated speed rpm : 400

Rack travel in mm : 6.25  
 Tolerance mm : +- 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 22.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 4.5  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : +- 0.35  
 governor spring pre-tension  
 click setting x : 4.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 137.5  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5

##### RATED SPEED

control lever position degree : 103.0  
 tolerance degree : +- 4.0  
 rack travel mm : 9.65  
 Rated speed rpm : 1025

Tolerance 1/min : +- 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1065  
 Tolerance 1/min : +- 10  
 rack travel mm : 1.00  
 Tolerance mm : +- 0.70  
 Rated speed rpm : 1175  
 rack travel mm : 4.00  
 Rated speed rpm : 1065

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##### LOW IDLE

control lever position degree : 76.0  
 tolerance degree : +- 4.0  
 Setting point w/out bumper spring  
 Rated speed rpm : 400  
 rack travel mm : 5.25  
 Testing:  
 Rated speed rpm : 400  
 rack travel mm : 6.25  
 Tolerance mm : +- 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

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##### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 10.65  
 Tolerance mm : +- 0.05  
 Rated speed rpm : 500  
 rack travel mm : 10.65  
 Tolerance mm : +- 0.05  
 Rated speed rpm : 700  
 rack travel mm : 10.65  
 Tolerance mm : +- 0.05

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
 Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

#### BREAKAWAY

Rack travel in mm : 9.65  
Rated speed rpm : 1025  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0

#### LOW IDLE

Rated speed rpm : 400  
rack travel mm : 6.25  
Tolerance mm : + - 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.08.95  
Test oil : ISO 4113

Combination No. : 0 403 474 0210

Injection pump  
Pump designation : PES4MW100/720RS1181  
EP type number : 0 413 404 107

Governor  
Governor design. : RSV400...1000MW1A348  
Governor no. : 0 420 085 183

Cust. part No. :

### Customer-spec. information

Customer : LIEBHERR  
Motor : D914T  
Power KW : 106.0

### TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 049

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x Length mm : 600

### REMARKS

Check electrically unlatched starting fuel delivery (EES) with 24 volt.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 3.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.50

Check  
tolerance °NW : + 0.75

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 400  
 Rack travel in mm : 6.25  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 22.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + - 0.35  
 governor spring pre-tension click setting x : 4.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1250  
 Del. quantity cm<sup>3</sup>/1000 strokes : 137.5  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5

##### RATED SPEED

control lever position degree : 103.0

tolerance degree : + - 4.0  
 rack travel mm : 9.65  
 Rated speed rpm : 1025  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1065  
 Tolerance 1/min : + - 10  
 rack travel mm : 1.00  
 Tolerance mm : + - 0.70  
 Rated speed rpm : 1175  
 rack travel mm : 4.00  
 Rated speed rpm : 1065

##### LOW IDLE

control lever position degree : 76.0  
 tolerance degree : + - 4.0  
 Setting point w/out bumper spring  
 Rated speed rpm : 400  
 rack travel mm : 6.25  
 Testing:  
 Rated speed rpm : 400  
 rack travel mm : 5.25  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 10.65  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 500  
 rack travel mm : 10.65  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 700  
 rack travel mm : 10.65  
 Tolerance mm : + - 0.05

##### ANEROID/ALTITUDE COMPENSATOR TEST

**SETTING**

Rated speed rpm : 500  
 Pressure hPa : -  
 rack travel mm : 10.20  
 Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : 1250  
 Rated speed rpm : 500  
 rack travel mm : 10.65  
 Tolerance mm : + - 0.05

Rated speed rpm : 500

Pressure hPa : 420  
 rack travel mm : 10.30  
 Tolerance mm : + - 0.05

Pressure hPa : 460  
 rack travel mm : 10.55  
 Tolerance mm : + - 0.10

**Check tolerance**

cm<sup>3</sup>/1000S. : + - 4.0

**BREAKAWAY**

Rack travel in mm : 9.65  
 Rated speed rpm : 1025  
 Tolerance 1/min : + - 5

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
 rack travel mm : 20.00  
 Tolerance mm : + - 1.00  
 Del. quantity cm<sup>3</sup>/1000 strokes : 135.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 8.0

**FUEL DELIVERY CHARACTERISTICS****Aneroid pressure**

hPa : 1250  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 130.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

**Aneroid pressure**

hPa : 1250  
 Rated speed rpm : 700  
 Del. quantity cm<sup>3</sup>/1000 strokes : 141.5  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0

**Aneroid pressure**

hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 127.5  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0

**LOW IDLE**

Rated speed rpm : 400  
 rack travel mm : 6.25  
 Tolerance mm : + - 0.10  
 Del. quantity cm<sup>3</sup>/1000 strokes : 22.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.5  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.09.95  
Test oil : ISO 4113

Combination No. : 0 403 476 096

Injection pump  
Pump designation : PES6MW100/320RS1132  
EP type number : 0 413 406 124

Governor  
Governor design. : RSV650...750MW4A311  
: -4  
Governor no. : 0 420 085 161

Cust. part No. :

## Customer-spec. information

Customer : PENTA  
Motor : TD 61 AG  
Power KW : 93.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.85  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.0
Rated speed rpm	: 650
Rack travel in mm	: 6.20
Tolerance mm	: + - 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 19.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + - 2.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + - 4.5
Spred	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 5.5

#### RATED SPEED

control lever position degree	: 87.0
tolerance degree	: + - 4.0
rack travel mm	: 10.80
Rated speed rpm	: 751
Tolerance 1/min	: + - 3
rack travel mm	: 4.00
Rated speed rpm	: 781
Tolerance 1/min	: + - 8
rack travel mm	: 1.00
Tolerance mm	: + - 0.70
Rated speed rpm	: 950
rack travel mm	: 4.00
Rated speed rpm	: 813

#### LOW IDLE

control lever position degree	: 82.0
tolerance degree	: + - 4.0

Setting point w/out bumper spring

Rated speed rpm	: 650
rack travel mm	: 5.70

#### Testing:

Rated speed rpm	: 650
rack travel mm	: 6.20
Tolerance mm	: + - 0.20

Rated speed rpm	: 100
-----------------	-------

CRT mm min.	: > 19.00
-------------	-----------

#### TORQUE CONTROL

Rated speed rpm	: 700
rack travel mm	: 10.85
Tolerance mm	: + - 0.05

#### BREAKAWAY

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 800
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Rack travel in mm	: 0.65
Tolerance mm	: + - 0.35

governor spring  
pre-tension

click setting x	: 4.00
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##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
-----------------	-------

Aneroid pressure	
------------------	--

hPa	: -
-----	-----

Del. quantity	
---------------	--

cm <sup>3</sup> /1000 strokes	: 100.0
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Tolerance	
-----------	--

cm <sup>3</sup> /1000 strokes	: + - 1.0
-------------------------------	-----------

Check tolerance	
-----------------	--

cm <sup>3</sup> /1000S.	: + - 3.0
-------------------------	-----------

Spred	
-------	--

Tolerance	
-----------	--

cm <sup>3</sup> /1000 strokes	: 3.5
-------------------------------	-------

Check tolerance	
-----------------	--

cm <sup>3</sup> /1000S.	: 6.0
-------------------------	-------

Rack travel in mm : 10.80  
Rated speed rpm : 751  
Tolerance 1/min : + - 3

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 13.0

---

#### LOW IDLE

Rated speed rpm : 650  
rack travel mm : 6.20  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.09.95  
Test oil : ISO 4113

Combination No. : 0 403 476 102

Injection pump  
Pump designation : PES6MW100/320RS1211  
EP type number : 0 413 406 202

Governor  
Governor design. : RSV650...750MW4A311  
: -5  
Governor no. : 0 420 085 166

Cust. part No. :

## Customer-spec. information

Customer : PENTA  
Motor : TID 61 AG  
Power KW : 115.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance \*NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.0
Rated speed rpm	: 650
Rack travel in mm	: 5.25
Tolerance mm	: + - 0.40
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 19.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + - 2.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + - 4.5
Spred	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 5.5

#### RATED SPEED

control lever position degree	: 88.0
tolerance degree	: + - 4.0
rack travel mm	: 10.20
Rated speed rpm	: 751
Tolerance 1/min	: + - 3
rack travel mm	: 4.00
Rated speed rpm	: 781
Tolerance 1/min	: + - 8
rack travel mm	: 1.00
Tolerance mm	: + - 0.70
Rated speed rpm	: 1000
rack travel mm	: 4.00
Rated speed rpm	: 803

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 800
Rack travel in mm	: 0.65
Tolerance mm	: + - 0.35
governor spring pre-tension	
click setting x	: 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure	
hPa	: -
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 125.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + - 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + - 3.0
Spred	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.5
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.0

##### LOW IDLE

control lever position degree	: 82.0
tolerance degree	: + - 4.0

Setting point w/out bumper spring

Rated speed rpm	: 650
rack travel mm	: 4.25

Testing:

Rated speed rpm	: 650
rack travel mm	: 5.25
Tolerance mm	: + - 0.25

Rated speed rpm	: 100
CRT mm min.	: > 19.00

##### TORQUE CONTROL

Rated speed rpm	: 700
rack travel mm	: 11.25
Tolerance mm	: + - 0.05

##### BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 751  
Tolerance 1/min : +- 3

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 185.0  
Tolerance  
cm3/1000 strokes : +- 10.0  
Check tolerance  
cm3/1000S. : +- 13.0

---

#### LOW IDLE

Rated speed rpm : 650  
rack travel mm : 5.25  
Tolerance mm : +- 0.40  
Del. quantity  
cm3/1000 strokes : 19.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.5  
Speed  
Tolerance  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.09.95  
Test oil : ISO 4113

Combination No. : 0 403 476 108

Injection pump  
Pump designation : PES6MW100/320RS1132  
EP type number : 0 413 406 124

Governor  
Governor design. : RSV325...1400MW2A314  
: -3  
Governor no. : 0 420 085 173

Cust. part No. :

## Customer-spec. information

Customer : PENTA  
Motor : TD 610M  
Power KW : 147.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 97.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 325

Rack travel in mm : 6.10  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : +- 0.35

governor spring  
pre-tension  
click setting x : 6.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 97.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

##### RATED SPEED

control lever  
position degree : 108.0  
tolerance degree : +- 4.0

rack travel mm : 10.30  
Rated speed rpm : 1280  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1385  
Tolerance 1/min : +- 10

rack travel mm : 1.00  
Tolerance mm : +- 0.70  
Rated speed rpm : 1575

rack travel mm : 4.00  
Rated speed rpm : 1420

##### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 5.60

##### Testing:

Rated speed rpm : 325  
rack travel mm : 6.10  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 620  
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.35  
Tolerance mm : +- 0.05

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 1000  
Pressure hPa : 800  
rack travel mm : 11.35  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : 10.15  
Tolerance mm : + - 0.05

Rated speed rpm : 1000

Pressure hPa : 420  
rack travel mm : 11.15  
Tolerance mm : + - 0.15

Pressure hPa : 130  
rack travel mm : 10.25  
Tolerance mm : + - 0.05

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.0

---

**BREAKAWAY**

Rack travel in mm : 10.30  
Rated speed rpm : 1280  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00

Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 13.0

---

**LOW IDLE**

Rated speed rpm : 325  
rack travel mm : 6.10  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.09.95  
Test oil : ISO 4113

Combination No. : 0 403 476 130

Injection pump  
Pump designation : PES6MW100/320RS1211  
EP type number : 0 413 406 202

Governor  
Governor design. : RSV300...900MW1A311  
: -6

Governor no. : 0 420 085 224

Cust. part No. :

## Customer-spec. information

Customer : PENTA  
Motor : TWD 610 P

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 9.70  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 98.0

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance  
cm³/1000s. : + 3.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

---

Rated speed rpm : 300

---

Rack travel in mm : 6.00  
 Tolerance mm : +- 0.40

---

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 2.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
 Tolerance mm : +- 0.35

governor spring  
pre-tension  
click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
 Aneroid pressure  
hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 98.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

##### RATED SPEED

control lever position degree	:	106.0
tolerance degree	:	+- 4.0
rack travel mm	:	8.70
Rated speed rpm	:	920
Tolerance 1/min	:	+- 3
rack travel mm	:	4.00
Rated speed rpm	:	975
Tolerance 1/min	:	+- 8
rack travel mm	:	1.00
Tolerance mm	:	+- 0.70
Rated speed rpm	:	1050
rack travel mm	:	4.00
Rated speed rpm	:	1005

##### LOW IDLE

control lever position degree	:	82.0
tolerance degree	:	+- 4.0

Setting point w/out bumper spring

Rated speed rpm	:	300
rack travel mm	:	5.00

Testing:

Rated speed rpm	:	300
rack travel mm	:	6.00
Tolerance mm	:	+- 0.25

Rated speed rpm	:	100
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CRT mm min.	:	> 19.00
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##### TORQUE CONTROL

Rated speed rpm	:	900
rack travel mm	:	9.70
Tolerance mm	:	+- 0.05

##### BREAKAWAY

Rack travel in mm : 8.70  
Rated speed rpm : 920  
Tolerance 1/min :  $\pm$  3

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  13.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.00  
Tolerance mm :  $\pm$  0.40  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.09.95  
Test oil : ISO 4113

Combination No. : 0 403 476 132

Injection pump  
Pump designation : PES6MW100/320RS1132  
EP type number : -1  
: 0 413 406 230

Governor  
Governor design. : RSV325...1200MW0A359  
: -1  
Governor no. : 0 420 085 241

Cust. part No. :

## Customer-spec. information

Customer : PENTA  
Motor : TD 630ME  
Power KW : 119.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.65  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 116.0

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 325  
 Rack travel in mm : 6.00  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 14.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring pre-tension click setting x : 3.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 116.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0

##### RATED SPEED

control lever position degree : 96.0  
 tolerance degree : + 4.0  
 rack travel mm : 11.60  
 Rated speed rpm : 1225  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1275  
 Tolerance 1/min : + 10  
 rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1350  
 rack travel mm : 4.00  
 Rated speed rpm : 1295

##### LOW IDLE

control lever position degree : 69.0  
 tolerance degree : + 4.0  
 Setting point w/out bumper spring  
 Rated speed rpm : 325  
 rack travel mm : 5.50  
 Testing:  
 Rated speed rpm : 325  
 rack travel mm : 6.00  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 490  
 Tolerance 1/min : + 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.00

##### TORQUE CONTROL

Rated speed rpm : 700  
 rack travel mm : 12.65  
 Tolerance mm : + 0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 700  
Pressure hPa : 1000  
rack travel mm : 12.65  
Tolerance mm :  $\pm$  0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 700  
rack travel mm : 10.55  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700

Pressure hPa : 610  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 270  
rack travel mm : 10.75  
Tolerance mm :  $\pm$  0.05

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.0

---

### BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1225  
Tolerance 1/min :  $\pm$  5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00

Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  13.0

---

### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 6.00  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.08.95  
Test oil : ISO 4113

Combination No. : 0 401 430 015

Injection pump  
Pump designation : PE12R120/520/6RS1510  
EP type number : 0 411 420 002

Governor  
Governor design. : RQV300...1150R7K  
Governor no. : 0 421 415 007

Cust. part No. : 1 227 6584

## Customer-spec. information

Customer : MWM  
Motor : TBD 616

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00  
Tolerance mm : + 0.50

Firing order : 1- 2- 9-10- 5- 6  
: - 11- 12- 3- 4  
: - 7- 8

Phasing : 0-30-60-90-120-150  
: -180-210-240-270  
: -300-330

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 387.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : 4.80  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve

travel mm : 0.93  
Tolerance mm : + 0.20

Rated speed rpm : 1215  
guide sleeve

travel mm : 9.95  
Tolerance mm : + 0.15

Rated speed rpm : 790  
guide sleeve

travel mm : 4.81  
Tolerance mm : + 0.25

Rated speed rpm : 1430  
guide sleeve

travel mm : 13.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1330

Rack travel in mm : 9.00  
Tolerance mm : + 1.50

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 387.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### RATED SPEED

control lever  
position degree : 121.0  
tolerance degree : + 4.0

rack travel mm : 13.40  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1295  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1400

#### LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : > 6.30

Rated speed rpm : 370

#### TORQUE CONTROL

Rated speed rpm	:	1150
rack travel mm	:	14.40
Tolerance mm	:	+/- 0.05
Rated speed rpm	:	750
rack travel mm	:	11.60
Tolerance mm	:	+/- 0.20
Rated speed rpm	:	400
rack travel mm	:	10.30
Tolerance mm	:	+/- 0.30

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm	:	1150
Pressure hPa	:	1500
rack travel mm	:	14.40
Tolerance mm	:	+/- 0.05

#### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1150
rack travel mm	:	7.90
Tolerance mm	:	+/- 0.20

Rated speed rpm : 1150

Pressure hPa	:	900
rack travel mm	:	13.60
Tolerance mm	:	+/- 0.20

Pressure hPa	:	310
rack travel mm	:	9.00
Tolerance mm	:	+/- 0.05

#### START CUT-OUT

Rated speed rpm	:	< 250
Check speed 1/min	:	< 270

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	1500
Rated speed rpm	:	750
Del. quantity cm3/1000 strokes	:	317.0

Tolerance cm3/1000 strokes	:	+/- 3.0
Check tolerance cm3/1000S.	:	+/- 6.0
Spred		
Tolerance cm3/1000 strokes	:	10.0
Check tolerance cm3/1000S.	:	14.0
Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm3/1000 strokes	:	200.0
Tolerance cm3/1000 strokes	:	+/- 1.0
Check tolerance cm3/1000S.	:	+/- 4.0
Spred		
Tolerance cm3/1000 strokes	:	10.0
Check tolerance cm3/1000S.	:	14.0

#### BREAKAWAY

Rack travel in mm	:	13.40
Rated speed rpm	:	1195
Tolerance 1/min	:	+/- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

#### LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	4.80
Tolerance mm	:	+/- 0.20
Del. quantity cm3/1000 strokes	:	30.0
Tolerance cm3/1000 strokes	:	+/- 3.0
Check tolerance cm3/1000S.	:	+/- 6.0
Spred		
Tolerance cm3/1000 strokes	:	10.0
Check tolerance cm3/1000S.	:	14.0

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End of test specification sheet



## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.09.95  
Test oil : ISO 4113

Combination No. : 0 401 846 991

Injection pump  
Pump designation : PE6P110A320RS3108-1  
EP type number : 0 411 816 757

Governor  
Governor design. : RQV250...1100PA920  
: -10  
Governor no. : 0 421 814 106

Cust. part No. : 425823 P02 RELEASED

### Customer-spec. information

Customer : VOLVO-TRUCK  
Motor : THD 102 KB  
Power KW : 212.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.05  
Tolerance mm : ± 0.05

test only : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.30  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 191.0

Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 7.5
Del. quantity cm <sup>3</sup> /1000 strokes	: 32.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.5
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 3.0
Check tolerance cm <sup>3</sup> /1000S.	: 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve travel mm	: 1.19
Tolerance mm	: + 0.25
Rated speed rpm	: 1146
guide sleeve travel mm	: 7.81
Tolerance mm	: + 0.25
Rated speed rpm	: 1081
guide sleeve travel mm	: 6.83
Tolerance mm	: + 0.25
Rated speed rpm	: 387
guide sleeve travel mm	: 2.96
Tolerance mm	: + 0.25
Rated speed rpm	: 437
guide sleeve travel mm	: 3.71
Tolerance mm	: + 0.25
Rated speed rpm	: 520

guide sleeve travel mm	: 4.67
Tolerance mm	: + 0.25
Rated speed rpm	: 1370
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1175
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 191.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 3.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 7.5

##### RATED SPEED

control lever position degree	: 63.0
tolerance degree	: + 4.0
control lever position degree	: 120.0
tolerance degree	: + 4.0
rack travel mm	: 13.30
Rated speed rpm	: 1135
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1240
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1350

---

## LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : +- 4.0

control lever  
position degree : 11.0  
tolerance degree : +- 4.0

### Testing:

Rated speed rpm : 250  
rack travel mm : 5.70  
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm/min. : > 6.70

Rated speed rpm : 330

---

## TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 14.30  
Tolerance mm : +- 0.05

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 14.30  
Tolerance mm : +- 0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.15  
Tolerance mm : +- 0.15

Rated speed rpm : 500

Pressure hPa : 980  
rack travel mm : 3.80  
Tolerance mm : +- 0.15

Pressure hPa : 240  
rack travel mm : 0.25  
Tolerance mm : +- 0.05

---

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 113.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

## BREAKAWAY

Rack travel in mm : 13.30  
Rated speed rpm : 1135  
Tolerance 1/min : +- 5

---

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.15  
Tolerance mm : +- 0.15

---

## LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 32.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.09.95

Test oil : ISO 4113

Combination No. : 0 402 046 789

## Injection pump

Pump designation : PES6P120A320RS3139  
EP type number : 0 412 026 718

## Governor

Governor design. : RQV275...1000PA728  
: -3

Governor no. : 0 421 813 657

Cust. part No. : CCEP 5070 -116

## Customer-spec. information

Customer : RVI  
Motor : MIDR 062045 H  
Power KW : 227.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holder assembly : 1 688 901 019

Opening pressure bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x Length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance check tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Del. quantity cm<sup>3</sup>/1000 strokes : 197.0

Tolerance cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0

Spread Tolerance cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0

Del. quantity cm<sup>3</sup>/1000 strokes : 27.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance cm<sup>3</sup>/1000S. : + - 5.0

Spred Tolerance cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1170

Rack travel in mm : 16.50

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure hPa : 1000

Del. quantity cm<sup>3</sup>/1000 strokes : 197.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

Spred Tolerance cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever position degree : 119.0  
tolerance degree : + - 4.0

rack travel mm : -1.00  
Rated speed rpm : 1080

Tolerance 1/min : + - 5

rack travel mm : -7.15

Rated speed rpm : 1195  
Tolerance 1/min : + - 15

rack travel mm : -10.65  
Tolerance mm : + - 0.50

Rated speed rpm : 1300

##### LOW IDLE

control lever position degree : 67.0  
tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 275  
rack travel mm : -5.30  
Tolerance mm : + - 0.15

Rated speed rpm : 200

CRT mm max. : < -3.80

Rated speed rpm : 370

##### TORQUE CONTROL

Rated speed rpm : 600

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -2.20  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 160  
rack travel mm : -1.70  
Tolerance mm : + - 0.10

Pressure hPa : 280  
rack travel mm : -0.75  
Tolerance mm : + - 0.05

---

#### START CUT-OUT

Rated speed rpm : < 195  
Check speed 1/min : < 215

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1080  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.09.95  
Test oil : ISO 4113

Combination No. : 0 402 046 862

Injection pump  
Pump designation : PES6P120A320RS3337  
EP type number : 0 412 026 770

Governor  
Governor design. : RQV300...1250PA1149K  
Governor no. : 0 421 815 416

Cust. part No. : CCEP 5141A 66-218

## Customer-spec. information

Customer : RVI  
Motor : MIDR 06-02-26 V4  
Power KW : 133.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.10  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Del. quantity  
cm3/1000 strokes : 149.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 4.0

Spread  
Tolerance  
cm3/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000s. : 9.0

Del. quantity cm<sup>3</sup>/1000 strokes : 30.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance cm<sup>3</sup>/1000s. : + - 5.0

Spred Tolerance cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000s. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300

guide sleeve travel mm : 1.31

Tolerance mm : + - 0.20

Rated speed rpm : 1346

guide sleeve travel mm : 10.55

Tolerance mm : + - 0.15

Rated speed rpm : 905

guide sleeve travel mm : 6.54

Tolerance mm : + - 0.25

Rated speed rpm : 381

guide sleeve travel mm : 2.38

Tolerance mm : + - 0.25

Rated speed rpm : 431

guide sleeve travel mm : 2.98

Tolerance mm : + - 0.25

Rated speed rpm : 530

guide sleeve travel mm : 3.77

Tolerance mm : + - 0.25

Rated speed rpm : 1580

guide sleeve travel mm : 13.50

Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1380

Rack travel in mm : 10.50

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure hPa : 1000

Del. quantity cm<sup>3</sup>/1000 strokes : 149.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance cm<sup>3</sup>/1000s. : + - 4.0

Spred Tolerance cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000s. : 9.0

##### RATED SPEED

control lever position degree : 297.0

tolerance degree : + - 4.0

rack travel mm : -1.00

Rated speed rpm : 1330

Tolerance 1/min : + - 5

rack travel mm : -7.10

Rated speed rpm : 1410

Tolerance 1/min : + - 15

rack travel mm : -10.60

Tolerance mm : + - 0.50

Rated speed rpm : 1550

##### LOW IDLE

control lever position degree : 244.0

tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300

rack travel mm : -6.30

Tolerance mm : + - 0.20

Rated speed rpm : 200

CRT mm min. : < -5.20

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 850  
rack travel mm : -1.35  
Tolerance mm : +- 0.15

Rated speed rpm : 350  
rack travel mm : -1.80  
Tolerance mm : +- 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1000

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : -2.00  
Tolerance mm : +- 0.20

Rated speed rpm : 1250

Pressure hPa : 160  
rack travel mm : -1.40  
Tolerance mm : +- 0.10

Pressure hPa : 280  
rack travel mm : -0.35  
Tolerance mm : +- 0.05

#### START CUT-OUT

Rated speed rpm : < 240

Check speed 1/min : < 260

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 850  
Del. quantity  
cm3/1000 strokes : 121.0

Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1250  
Del. quantity  
cm3/1000 strokes : 106.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1330  
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 108.0  
Tolerance  
cm3/1000 strokes : +- 15.0  
Check tolerance  
cm3/1000S. : +- 19.0

#### LOW IDLE

Del. quantity  
cm3/1000 strokes : 30.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Spread .  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.09.95  
Test oil : ISO 4113

Combination No. : 0 402 046 872

Injection pump  
Pump designation : PES6P120A320RS3337  
EP type number : 0 412 026 770

Governor  
Governor design. : RQV300...1250PA1246K  
Governor no. : 0 421 815 480

Cust. part No. : CCEP 5155 66-217

## Customer-spec. information

Customer : RVI  
Motor : MIDR 06-02-26 U4  
Power KW : 111.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 638 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.10  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.30

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Del. quantity  
cm³/1000 strokes : 145.0

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance  
cm³/1000S. : + 4.0

Spread  
Tolerance  
cm³/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : -6.00  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 29.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.31  
 Tolerance mm : + 0.20

Rated speed rpm : 1333  
 guide sleeve travel mm : 10.40  
 Tolerance mm : + 0.15

Rated speed rpm : 900  
 guide sleeve travel mm : 6.50  
 Tolerance mm : + 0.25

Rated speed rpm : 530  
 guide sleeve travel mm : 3.77  
 Tolerance mm : + 0.25

Rated speed rpm : 1580  
 guide sleeve travel mm : 13.50  
 Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1400  
 Rack travel in mm : 10.50  
 Tolerance mm : + 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Ameroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 145.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever position degree : 296.0  
 tolerance degree : + 4.0

rack travel mm : -1.00  
 Rated speed rpm : 1325  
 Tolerance 1/min : + 5

rack travel mm : -6.80  
 Rated speed rpm : 1420  
 Tolerance 1/min : + 15

rack travel mm : -10.30  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1550

##### LOW IDLE

control lever position degree : 242.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : -6.00  
 Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm min. : < -5.00

Rated speed rpm : 380

---

#### TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 750  
rack travel mm : -1.60  
Tolerance mm : + - 0.10

Rated speed rpm : 650  
rack travel mm : -1.90  
Tolerance mm : + - 0.15

Rated speed rpm : 400  
rack travel mm : -2.50  
Tolerance mm : + - 0.20

---

#### START CUT-OUT

Rated speed rpm : < 225  
Check speed 1/min : < 245

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 750  
Del. quantity cm3/1000 strokes : 107.0  
Tolerance cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 550  
Del. quantity cm3/1000 strokes : 94.0  
Tolerance cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0

---

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1325  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm3/1000 strokes : 112.0  
Tolerance cm3/1000 strokes : + - 15.0  
Check tolerance cm3/1000S. : + - 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : -6.00  
Tolerance mm : + - 0.20  
Del. quantity cm3/1000 strokes : 29.0  
Tolerance cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 5.0  
Spread Tolerance cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.09.95

Test oil : ISO 4113

Combination No. : 0 402 066 706

## Injection pump

Pump designation : PES6P120A120RS3358  
EP type number : 0 412 026 784

## Governor

Governer design. : RSV475...1250P2A613  
: -1

Governer no. : 0 421 833 505

Cust. part No. : 3927357

## Customer-spec. information

Customer : CDC  
Motor : 68TA-590 ELITE  
Power KW : 138.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0Prestroke mm : 2.85  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50Firing order : 1- 5- 3- 6- 2-  
: 4Phasing : 0-60-120-180-240  
: -300Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

\*NW after s.o.d. : 6.75  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.80  
Tolerance mm : + 0.05Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 475

Rack travel in mm : 5.60  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

governor spring  
pre-tension  
click setting x : 4.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

##### RATED SPEED

control lever  
position degree : 110.0  
tolerance degree : + 4.0

rack travel mm : 9.80  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1390  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1500

##### LOW IDLE

control lever  
position degree : 87.0  
tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 475  
rack travel mm : 5.60  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 570  
Tolerance 1/min : + 30

##### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 10.80  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 10.80  
Tolerance mm : + 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 10.80  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.60  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 10.20  
Tolerance mm : +- 0.20

Pressure hPa : 600  
rack travel mm : 9.15  
Tolerance mm : +- 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 151.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : +- 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 25.0

#### LOW IDLE

Rated speed rpm : 475  
rack travel mm : 5.60  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 21.07.95  
Test oil : ISO 4113

Combination No. : 0 402 076 751

Injection pump  
Pump designation : PES6P120A720RS3311  
EP type number : 0 412 026 760

Governor  
Governor design. : RSV400...1050POA603  
Governor no. : 0 421 833 484

Cust. part No. :

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Customer-spec. information  
Customer : FNH-GEOTECH  
Motor : P396  
Power KW : 157.0

---

## TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.60  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 132.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 400  
 Rack travel in mm : 5.00  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 18.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 132.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred

Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 101.0  
 tolerance degree : + 4.0  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1320  
 rack travel mm : 4.00  
 Rated speed rpm : 1160

##### LOW IDLE

control lever  
 position degree : 79.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 400  
 rack travel mm : 5.00

##### Testing:

Rated speed rpm : 400  
 rack travel mm : 4.50  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 530  
 Tolerance 1/min : + 20

##### TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 10.35  
 Tolerance mm : + 0.05  
 Rated speed rpm : 750  
 rack travel mm : 11.20  
 Tolerance mm : + 0.10  
 Rated speed rpm : 910  
 rack travel mm : 11.00  
 Tolerance mm : + 0.10

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.20  
Tolerance mm : +- 0.10

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.00  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 10.85  
Tolerance mm : +- 0.05

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm3/1000 strokes : 163.0  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 115.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 4.0

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm3/1000 strokes : 190.0

Tolerance  
cm3/1000 strokes : +- 15.0  
Check tolerance  
cm3/1000S. : +- 19.0

---

### LOW IDLE

Rated speed rpm : 400  
rack travel mm : 5.00  
Tolerance mm : +- 0.20  
Del. quantity  
cm3/1000 strokes : 18.0  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.09.95  
Test oil : ISO 4113

Combination No. : 0 402 616 800

Injection pump  
Pump designation : PE6P130A700RS7234  
EP type number : 0 412 636 819

Governor  
Governor design. :  
Governor no. :

Cust. part No. : 865277-P02

## Customer-spec. information

Customer : PENTA  
Motor : TAMD 162 \*

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 336.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

---

Rated speed rpm : 300

---

Rack travel in mm : 3.85  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 336.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

##### TORQUE CONTROL

Rated speed rpm : 700  
 rack travel mm : 11.15  
 Tolerance mm : +- 0.05

##### LOW IDLE

Rated speed rpm : 300  
 rack travel mm : 3.85  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.07.95  
Test oil : ISO 4113

Combination No. : 0 402 616 806

Injection pump  
Pump designation : PE6P120A300LS7888  
EP type number : 0 412 626 947

Governor  
Governor design. :  
Governor no. :

Cust. part No. : 04221425KZ0165-17

## Customer-spec. information

Customer : KHD  
Motor : BF6M1015C  
Power KW : 300.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.05  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 0.50

Firing order : 1- 6- 3- 5- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 13.70  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 350.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 4.70  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 350.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 13.70  
Tolerance mm : +- 0.05

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00

Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 24.0

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.70

Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.09.95  
Test oil : ISO 4113

Combination No. : 0 402 646 610

Injection pump  
Pump designation : PE6P130A720RS7273  
EP type number : -10  
: 0 412 636 828

Governor  
Governor design. : RQV250...900PA881-2  
Governor no. : 0 421 814 035

Cust. part No. : 865567  
: -P04 21.11.94

## Customer-spec. information

Customer : PENTA  
Motor : TAD 1630 P

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 9.30  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.00  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 415.0

Tolerance cm<sup>3</sup>/1000 strokes : +<sup>-</sup> 1.5  
 Check tolerance cm<sup>3</sup>/1000S. : +<sup>-</sup> 5.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0  
 Del. quantity cm<sup>3</sup>/1000 strokes : 20.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +<sup>-</sup> 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : +<sup>-</sup> 6.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve travel mm : 1.12  
 Tolerance mm : +<sup>-</sup> 0.25  
 Rated speed rpm : 979  
 guide sleeve travel mm : 8.54  
 Tolerance mm : +<sup>-</sup> 0.25  
 Rated speed rpm : 315  
 guide sleeve travel mm : 1.98  
 Tolerance mm : +<sup>-</sup> 0.25  
 Rated speed rpm : 365  
 guide sleeve travel mm : 2.47  
 Tolerance mm : +<sup>-</sup> 0.25  
 Rated speed rpm : 660  
 guide sleeve travel mm : 4.49  
 Tolerance mm : +<sup>-</sup> 0.25  
 Rated speed rpm : 1160

guide sleeve travel mm : 11.50  
 Tolerance mm : +<sup>-</sup> 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1030  
 Rack travel in mm : 11.00  
 Tolerance mm : +<sup>-</sup> 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : 1600  
 Del. quantity cm<sup>3</sup>/1000 strokes : 415.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +<sup>-</sup> 1.5  
 Check tolerance cm<sup>3</sup>/1000S. : +<sup>-</sup> 5.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

##### RATED SPEED

control lever position degree : 66.0  
 tolerance degree : +<sup>-</sup> 4.0  
 control lever position degree : 122.0  
 tolerance degree : +<sup>-</sup> 4.0  
 rack travel mm : 12.00  
 Rated speed rpm : 965  
 Tolerance 1/min : +<sup>-</sup> 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1040  
 Tolerance 1/min : +<sup>-</sup> 15  
 rack travel mm : 0.50  
 Tolerance mm : +<sup>-</sup> 0.50  
 Rated speed rpm : 1180

##### LOW IDLE

control lever position degree : 68.0

tolerance degree : +- 4.0  
control lever  
position degree : 15.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 4.70  
Tolerance mm : +- 0.20

Rated speed rpm : 150  
CRT mm min. : > 6.00

Rated speed rpm : 335

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.00  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 13.00  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.15  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 1100  
rack travel mm : 3.35  
Tolerance mm : +- 0.15

Pressure hPa : 550  
rack travel mm : 0.25  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -

CO2

Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 257.0  
Tolerance  
cm3/1000 strokes : +- 1.5  
Check tolerance  
cm3/1000S. : +- 5.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 965  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.00  
Tolerance mm : +- 0.50

---

LOW IDLE

Del. quantity  
cm3/1000 strokes : 20.0  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 7.0  
Check tolerance  
cm3/1000S. : 11.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.09.95  
Test oil : ISO 4113

Combination No. : 0 402 646 658

Injection pump  
Pump designation : PE6P130A720RS7371  
EP type number : 0 412 636 837

Governor  
Governor design. : RQV250...900PA1215  
Governor no. : 0 421 814 139

Cust. part No. : 3825482-P02 V.02/95

## Customer-spec. information

Customer : PENTA  
Motor : TAMD 163 A  
Power KW : 405.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 60  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.70  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 7.40  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.70  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 363.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
 Speed  
 Tolerance cm<sup>3</sup>/1000 strokes : 9.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 250  
 Rack travel in mm : 5.00  
 Tolerance mm : + - 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 25.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
 Speed  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve travel mm : 1.12  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 959  
 guide sleeve travel mm : 8.22  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 315  
 guide sleeve travel mm : 1.98  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 365  
 guide sleeve travel mm : 2.47  
 Tolerance mm : + - 0.25

Rated speed rpm : 650  
 guide sleeve travel mm : 4.40  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1160  
 guide sleeve travel mm : 11.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1030  
 Rack travel in mm : 11.00  
 Tolerance mm : + - 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 363.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
 Speed  
 Tolerance cm<sup>3</sup>/1000 strokes : 9.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever position degree : 63.0  
 tolerance degree : + - 4.0  
 control lever position degree : 118.0  
 tolerance degree : + - 4.0  
 rack travel mm : 11.70  
 Rated speed rpm : 930  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1010  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1100

---

### LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : + - 4.0

control lever  
position degree : 15.0  
tolerance degree : + - 4.0

### Testing:

Rated speed rpm : 250  
rack travel mm : 5.00  
Tolerance mm : + - 0.30

Rated speed rpm : 150

CRT mm min. : > 6.50

Rated speed rpm : 350

---

### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 12.70  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 12.70  
Tolerance mm : + - 0.10

---

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.70  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.40  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 1000  
rack travel mm : 4.80  
Tolerance mm : + - 0.20

Pressure hPa : 240  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 392.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

---

### BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 930  
Tolerance 1/min : + - 5

---

### LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.00  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 21.09.95  
Test oil : ISO 4113

Combination No. : 0 402 646 664

Injection pump  
Pump designation : PE6P120A320LS7401  
EP type number : 0 412 626 950

Governor  
Governor design. : RQV325...1000PA1256K  
Governor no. : 0 421 815 493

Cust. part No. :

## Customer-spec. information

Customer : LIAZ  
Motor : ML636E  
Power KW : 175.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.80  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 12.00  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + - 0.30

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.80  
Tolerance mm : + - 0.05

Del. quantity  
cm3/1000 strokes : 215.0

Tolerance  
cm3/1000 strokes : + - 1.0

Check tolerance  
cm3/1000s. : + - 4.0

Spread  
Tolerance  
cm3/1000 strokes : 5.0

Check tolerance cm <sup>3</sup> /1000S.	:	9.0
Rated speed rpm	:	325
Rack travel in mm	:	4.40
Tolerance mm	:	+ - 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	:	38.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 6.0
Spred		
Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	:	325
guide sleeve travel mm	:	1.47
Tolerance mm	:	+ - 0.20
Rated speed rpm	:	1057
guide sleeve travel mm	:	9.78
Tolerance mm	:	+ - 0.15
Rated speed rpm	:	831
guide sleeve travel mm	:	6.95
Tolerance mm	:	+ - 0.25
Rated speed rpm	:	550
guide sleeve travel mm	:	3.76
Tolerance mm	:	+ - 0.25
Rated speed rpm	:	1290
guide sleeve travel mm	:	13.50
Tolerance mm	:	+ - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	:	1140
Rack travel in mm	:	12.80
Tolerance mm	:	+ - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1000
Aneroid pressure hPa	:	1500
Del. quantity cm <sup>3</sup> /1000 strokes	:	215.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 4.0
Spred		
Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	9.0

##### RATED SPEED

control lever position degree	:	65.0
tolerance degree	:	+ - 4.0
control lever position degree	:	119.0
tolerance degree	:	+ - 4.0
rack travel mm	:	12.80
Rated speed rpm	:	1045
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00
Rated speed rpm	:	1145
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.50
Tolerance mm	:	+ - 0.50
Rated speed rpm	:	1200

##### LOW IDLE

control lever position degree	:	69.0
tolerance degree	:	+ - 4.0
control lever position degree	:	15.0
tolerance degree	:	+ - 4.0

##### Testing:

Rated speed rpm	:	325
rack travel mm	:	4.40
Tolerance mm	:	+ - 0.10

Rated speed rpm : 225  
CRT mm min. : > 6.00  
Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 13.80  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 13.45  
Tolerance mm : + - 0.20

Rated speed rpm : 600  
rack travel mm : 12.85  
Tolerance mm : + - 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1000  
Pressure hPa : 1500  
rack travel mm : 13.80  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : 11.15  
Tolerance mm : + - 0.10

Rated speed rpm : 1000

Pressure hPa : 260  
rack travel mm : 11.70  
Tolerance mm : + - 0.20

Pressure hPa : 370  
rack travel mm : 13.20  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 255  
Check speed 1/min : < 265

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 700  
Del. quantity cm3/1000 strokes : 230.0  
Tolerance cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 191.0  
Tolerance cm3/1000 strokes : + - 2.0  
Check tolerance cm3/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 1045  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm3/1000 strokes : 300.0  
Tolerance cm3/1000 strokes : + - 20.0  
Check tolerance cm3/1000S. : + - 24.0

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.40  
Tolerance mm : + - 0.30  
Del. quantity cm3/1000 strokes : 38.0  
Tolerance cm3/1000 strokes : + - 3.0  
Check tolerance cm3/1000S. : + - 6.0  
Spread  
Tolerance cm3/1000 strokes : 8.0  
Check tolerance cm3/1000S. : 12.0

---

End of test specification sheet.

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.09.95  
Test oil : ISO 4113

Combination No. : 0 402 646 744

Injection pump  
Pump designation : PE6P120A320LS7872  
EP type number : 0 412 626 912

Governor  
Governor design. : RQV300...1050PA1259  
Governor no. : 0 421 814 169

Cust. part No. : 04221532 KY 0165-17

## Customer-spec. information

Customer : KHD  
Motor : BF6M1015C  
Power KW : 270.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 6- 3- 5- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.70  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 328.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.00  
 Tolerance mm : +- 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0

Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.24  
 Tolerance mm : +- 0.20

Rated speed rpm : 1098  
 guide sleeve  
 travel mm : 10.02  
 Tolerance mm : +- 0.15

Rated speed rpm : 860  
 guide sleeve  
 travel mm : 5.59  
 Tolerance mm : +- 0.25

Rated speed rpm : 560  
 guide sleeve  
 travel mm : 3.24  
 Tolerance mm : +- 0.25

Rated speed rpm : 1154  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : +- 0.25

Rated speed rpm : 1230  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1118  
 Rack travel in mm : 12.70  
 Tolerance mm : +- 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 328.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 121.0  
 tolerance degree : +- 4.0

rack travel mm : 12.70  
 Rated speed rpm : 1085  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1125  
 Tolerance 1/min : +- 15

rack travel mm : 0.50  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1280

##### LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree : +- 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.00  
 Tolerance mm : +- 0.10

Rated speed rpm : 200  
CRT mm min. : > 8.00  
Rated speed rpm : 345

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.70  
Tolerance mm : +- 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1700  
rack travel mm : 13.70  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 8.70  
Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 450  
rack travel mm : 10.00  
Tolerance mm : +- 0.10

Pressure hPa : 1000  
rack travel mm : 12.50  
Tolerance mm : +- 0.05

#### START CUT-OUT

Rated speed rpm : < 220  
Check speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm3/1000 strokes : 230.0  
Tolerance  
cm3/1000 strokes : +- 1.0

Check tolerance  
cm3/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : 12.70  
Rated speed rpm : 1085  
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 190.0  
Tolerance  
cm3/1000 strokes : +- 20.0  
Check tolerance  
cm3/1000S. : +- 24.0

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.00  
Tolerance mm : +- 0.20  
Del. quantity  
cm3/1000 strokes : 23.0  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.06.95  
Test oil : ISO 4113

Combination No. : 0 402 646 951

Injection pump  
Pump designation : PE6P120A720RS7188  
: -10  
EP type number : 0 412 626 924

Governor  
Governor design. : RQ200...950PA745-3  
Governor no. : 0 421 801 579

Cust. part No. : 1332288

## Customer-spec. information

Customer : SCANIA  
Motor : DSC 11 77

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance check  
tolerance °NW : + 0.50

start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.15  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 171.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 225  
 Rack travel in mm : 4.80  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 14.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 225  
 guide sleeve  
 travel mm : 1.13  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1006  
 guide sleeve  
 travel mm : 4.90  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 930  
 guide sleeve  
 travel mm : 4.50  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 343  
 guide sleeve  
 travel mm : 2.76  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 520

guide sleeve  
 travel mm : 4.50  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 1045  
 guide sleeve  
 travel mm : 5.50  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 1360  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 500  
 Rack travel in mm : 20.00  
 Tolerance mm : + - 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 171.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever  
 position degree : 44.0  
 tolerance degree : + - 4.0  
 control lever  
 position degree : 98.0  
 tolerance degree : + - 4.0  
 rack travel mm : 10.10  
 Rated speed rpm : 995  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1120  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1200

#### LOW IDLE

control lever  
position degree : 64.0  
tolerance degree : + - 4.0

control lever  
position degree : 9.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 225  
rack travel mm : 4.80  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 340  
Tolerance 1/min : + - 20

Rated speed rpm : 125

CRT mm min. : > 5.80

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.15  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 11.15  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.15  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.50  
Tolerance mm : + - 0.20

Rated speed rpm : 500  
Pressure hPa : 280  
rack travel mm : 9.90  
Tolerance mm : + - 0.15

Pressure hPa : 420  
rack travel mm : 10.75  
Tolerance mm : + - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 171.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 122.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 995  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.40  
Tolerance mm : + - 0.20  
Tolerance cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 24.0

#### LOW IDLE

Rated speed rpm : 225

rack travel mm : 4.80  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 17.05.95  
Test oil : ISO 4113

Combination No. : 0 402 646 990

Injection pump  
Pump designation : PE6P130A720RS7225  
EP type number : 0 412 636 817

Governor  
Governor design. : RQV300...950PA975  
: -2K  
Governor no. : 0 421 815 310

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8210.42.369

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 12.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 12.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 29.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 7.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1175

Rack travel in mm : 11.00  
Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 269.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

##### RATED SPEED

control lever  
position degree : 116.0  
tolerance degree : + - 4.0  
rack travel mm : 11.10

Rated speed rpm : 995  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1095  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1200

rack travel mm : 4.00

##### LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
rack travel mm : 4.70  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 6.20

Rated speed rpm : 400

##### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 12.15  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 12.15  
Tolerance mm : + - 0.10

Rated speed rpm : 550  
rack travel mm : 12.15  
Tolerance mm : + - 0.10

Rated speed rpm : 350  
rack travel mm : 11.60  
Tolerance mm : + - 0.15

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 950

Pressure hPa : 1000  
rack travel mm : 12.15  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 950  
rack travel mm : 8.80  
Tolerance mm : + - 0.20

Rated speed rpm : 950

Pressure hPa : 480  
rack travel mm : 11.45  
Tolerance mm : + - 0.10

Pressure hPa : 300  
rack travel mm : 9.85  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 240  
Check speed 1/min : < 260

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 271.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 7.0

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 279.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 161.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 11.10  
Rated speed rpm : 995  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 29.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 7.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 24.08.95  
Test oil : ISO 4113

Combination No. : 0 402 648 602

Injection pump  
Pump designation : PE8P110A320RS7398  
EP type number : 0 412 618 800

Governor  
Governor design. : RQV300...900PA1252K  
Governor no. : 0 421 815 484

Cust. part No. :

## Customer-spec. information

Customer : TATRA  
Motor : T3B-928.60  
Power KW : 255.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 1.00

Firing order : 1- 8- 5- 4- 7  
: - 2- 3- 6

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance  
Check  
tolerance \*NW : + 0.30

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.00  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 191.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 250  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

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##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.63  
 Tolerance mm : + - 0.20

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Rated speed rpm : 958  
 guide sleeve  
 travel mm : 8.79  
 Tolerance mm : + - 0.15

---

Rated speed rpm : 777  
 guide sleeve  
 travel mm : 6.70  
 Tolerance mm : + - 0.25

---

Rated speed rpm : 520  
 guide sleeve  
 travel mm : 3.73  
 Tolerance mm : + - 0.25

---

Rated speed rpm : 1260  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1115  
 Rack travel in mm : 13.00

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 191.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 61.0  
 tolerance degree : + - 4.0

---

control lever  
 position degree : 115.0  
 tolerance degree : + - 4.0

---

rack travel mm : 13.00  
 Rated speed rpm : 945  
 Tolerance 1/min : + - 5

---

rack travel mm : 4.00  
 Rated speed rpm : 1055  
 Tolerance 1/min : + - 15

---

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1150

##### LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + - 4.0

---

control lever  
 position degree : 18.0  
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 250  
 Tolerance mm : + - 0.10

Rated speed rpm : 150  
CRT mm min. : > 6.47

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 14.00  
Tolerance mm : +- 0.05

Rated speed rpm : 600  
rack travel mm : 13.10  
Tolerance mm : +- 0.10

Rated speed rpm : 300  
rack travel mm : 12.20  
Tolerance mm : +- 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 900  
Pressure hPa : 1500  
rack travel mm : 14.00  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 900  
rack travel mm : 8.90  
Tolerance mm : +- 0.20

Rated speed rpm : 900

Pressure hPa : 375  
rack travel mm : 10.25  
Tolerance mm : +- 0.15

Pressure hPa : 750  
rack travel mm : 12.75  
Tolerance mm : +- 0.05

#### START CUT-OUT

Rated speed rpm : < 170  
Check speed 1/min : < 190

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 600  
Del. quantity cm3/1000 strokes : 198.0  
Tolerance cm3/1000 strokes : +- 2.0  
Check tolerance cm3/1000S. : +- 5.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 129.0  
Tolerance cm3/1000 strokes : +- 2.0  
Check tolerance cm3/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : 13.00  
Rated speed rpm : 945  
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity cm3/1000 strokes : 255.0  
Tolerance cm3/1000 strokes : +- 20.0  
Check tolerance cm3/1000S. : +- 24.0

#### LOW IDLE

Rated speed rpm : 250  
Tolerance mm : +- 0.30  
Del. quantity cm3/1000 strokes : 17.0  
Tolerance cm3/1000 strokes : +- 3.0  
Check tolerance cm3/1000S. : +- 6.0  
Spread  
Tolerance cm3/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 24.08.95  
Test oil : ISO 4113

Combination No. : 0 402 648 602A

Injection pump  
Pump designation : PE8P110A320RS7398  
EP type number : 0 412 618 800

Governor  
Governor design. : RQV300...900PA1252K  
Governor no. : 0 421 815 484

Cust. part No. :

## Customer-spec. information

Customer : TATRA  
Motor : T3B-928.50  
Power KW : 230.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 1.00

Firing order : 1- 8- 5- 4- 7  
: - 2- 3- 6

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance  
Check  
tolerance °NW : + 0.30

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.30  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 250  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.63  
 Tolerance mm : + - 0.20

Rated speed rpm : 957  
 guide sleeve  
 travel mm : 8.79  
 Tolerance mm : + - 0.15

Rated speed rpm : 776  
 guide sleeve  
 travel mm : 6.70  
 Tolerance mm : + - 0.25

Rated speed rpm : 520  
 guide sleeve  
 travel mm : 3.73  
 Tolerance mm : + - 0.25

Rated speed rpm : 1260  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1120  
 Rack travel in mm : 12.30

Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 175.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 61.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 115.0  
 tolerance degree : + - 4.0

rack travel mm : 12.30  
 Rated speed rpm : 945  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1095  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1100

##### LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 18.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 250  
 Tolerance mm : + - 0.10

Rated speed rpm : 150  
 CRT mm min. : > 6.50  
 Rated speed rpm : 360

#### TORQUE CONTROL

Rated speed rpm : 900  
 rack travel mm : 13.30  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 600  
 rack travel mm : 12.30  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 300  
 rack travel mm : 11.50  
 Tolerance mm : + - 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 900  
 Pressure hPa : 1500  
 rack travel mm : 13.30  
 Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 900  
 rack travel mm : 8.90  
 Tolerance mm : + - 0.20

Rated speed rpm : 900

Pressure hPa : 425  
 rack travel mm : 10.00  
 Tolerance mm : + - 0.15

Pressure hPa : 750  
 rack travel mm : 12.25  
 Tolerance mm : + - 0.05

##### START CUT-OUT

Rated speed rpm : < 220  
 Check speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
 Rated speed rpm : 600  
 Del. quantity cm3/1000 strokes : 182.0  
 Tolerance cm3/1000 strokes : + - 2.0  
 Check tolerance cm3/1000S. : + - 5.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm3/1000 strokes : 129.0  
 Tolerance cm3/1000 strokes : + - 2.0  
 Check tolerance cm3/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 12.30  
 Rated speed rpm : 945  
 Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 20.50  
 Tolerance mm : + - 0.50  
 Del. quantity cm3/1000 strokes : 255.0  
 Tolerance cm3/1000 strokes : + - 20.0  
 Check tolerance cm3/1000S. : + - 24.0

#### LOW IDLE

Rated speed rpm : 250  
 Tolerance mm : + - 0.30  
 Del. quantity cm3/1000 strokes : 17.0  
 Tolerance cm3/1000 strokes : + - 3.0  
 Check tolerance cm3/1000S. : + - 6.0  
 Spread  
 Tolerance cm3/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 21.09.95  
Test oil : ISO 4113

Combination No. : 0 402 648 796

Injection pump  
Pump designation : PE8P120A320LS7875  
EP type number : 0 412 628 881

Governor  
Governor design. : RQV250...1150PA1240  
Governor no. : 0 421 814 160

Cust. part No. :

Customer-spec. information  
Customer : DAEWOO  
Motor : V2-8TC  
Power KW : 265.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 90  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.20  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 16.00  
Tolerance mm : + - 1.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance  
Check  
tolerance °NW : + - 0.30

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.70  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0  
 \_\_\_\_\_  
 Rated speed rpm : 250  
 \_\_\_\_\_  
 Rack travel in mm : 5.50  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 20.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.54  
 Tolerance mm : + 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1206  
 guide sleeve  
 travel mm : 8.12  
 Tolerance mm : + 0.15  
 \_\_\_\_\_  
 Rated speed rpm : 930  
 guide sleeve  
 travel mm : 5.50  
 Tolerance mm : + 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 317  
 guide sleeve  
 travel mm : 2.69  
 Tolerance mm : + 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 367  
 guide sleeve  
 travel mm : 3.18  
 Tolerance mm : + 0.25

\_\_\_\_\_  
 Rated speed rpm : 530  
 guide sleeve  
 travel mm : 3.62  
 Tolerance mm : + 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1307  
 guide sleeve  
 travel mm : 10.00  
 Tolerance mm : + 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1400  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1265  
 \_\_\_\_\_  
 Rack travel in mm : 12.40  
 Tolerance mm : + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 200.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

##### RATED SPEED

control lever  
 position degree : 55.0  
 tolerance degree : + 4.0  
 \_\_\_\_\_  
 control lever  
 position degree : 119.0  
 tolerance degree : + 4.0  
 \_\_\_\_\_  
 rack travel mm : 11.70  
 Rated speed rpm : 1195  
 Tolerance 1/min : + 5  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1280

Tolerance 1/min : + 15  
rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

#### LOW IDLE

control lever  
position degree : 85.0  
tolerance degree : + 4.0

control lever  
position degree : 21.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 5.50  
Tolerance mm : + 0.10

Rated speed rpm : 150

CRT mm min. : > 8.50

Rated speed rpm : 300

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 12.70  
Tolerance mm : + 0.05

Rated speed rpm : 650  
rack travel mm : 12.70  
Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.70  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.40  
Tolerance mm : + 0.20

Rated speed rpm : 500  
Pressure hPa : 315  
rack travel mm : 9.50  
Tolerance mm : + 0.20

Pressure hPa : 725  
rack travel mm : 11.70  
Tolerance mm : + 0.05

#### START CUT-OUT

Rated speed rpm : < 190  
Check  
speed 1/min : < 210

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 218.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 205.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.50  
Tolerance mm : + - 0.30  
Del. quantity cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000s. : + - 6.0  
Spred  
Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 951

Injection pump  
Pump designation : PES6P120A720RS7292  
: -1  
EP type number : 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1074K  
Governor no. : 0 421 815 355

Cust. part No. : 0240747902

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 127.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x Length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 271.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 8.00  
 Tolerance mm : + - 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.53  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1205  
 guide sleeve travel mm : 9.35  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 855  
 guide sleeve travel mm : 5.56  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 550  
 guide sleeve travel mm : 3.17  
 Tolerance mm : + - 0.25

Rated speed rpm : 1480  
 guide sleeve travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1329  
 Rack travel in mm : 13.00  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 271.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever position degree : 109.0  
 tolerance degree : + - 4.0  
 rack travel mm : 13.20  
 Rated speed rpm : 1195  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.70  
 Tolerance mm : + - 0.70  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 65.0  
 tolerance degree : + - 4.0

Testing:

Rated speed rpm	:	350
rack travel mm	:	6.00
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	250
CRT mm min.	:	> 6.88
Rated speed rpm	:	400

#### TORQUE CONTROL

Rated speed rpm	:	1150
rack travel mm	:	14.20
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	950
rack travel mm	:	13.80
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	750
rack travel mm	:	13.20
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	600
rack travel mm	:	12.80
Tolerance mm	:	+ - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm	:	1150
Pressure hPa	:	1500
rack travel mm	:	14.20
Tolerance mm	:	+ - 0.05

#### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	1150
rack travel mm	:	11.00
Tolerance mm	:	+ - 0.15

Rated speed rpm : 1150

Pressure hPa	:	850
rack travel mm	:	13.50
Tolerance mm	:	+ - 0.05

Pressure hPa	:	350
rack travel mm	:	11.70
Tolerance mm	:	+ - 0.10

#### START CUT-OUT

Rated speed rpm	:	< 270
Check speed 1/min	:	< 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	1500
Rated speed rpm	:	750
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	262.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ - 2.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ - 5.0
Spread		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0

Aneroid pressure		
hPa	:	1500
Rated speed rpm	:	600
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	256.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ - 6.0

Aneroid pressure		
hPa	:	-
Rated speed rpm	:	500
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	166.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ - 4.0

#### BREAKAWAY

Rack travel in mm	:	13.20
Rated speed rpm	:	1195
Tolerance 1/min	:	+ - 5

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	13.70

Tolerance mm : +- 0.20  
Del. quantity  
cm3/1000 strokes : 158.0  
Tolerance  
cm3/1000 strokes : +- 15.0  
Check tolerance  
cm3/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : +- 0.30  
Del. quantity  
cm3/1000 strokes : 13.0  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0  
Spred  
Tolerance  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 22.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 956

Injection pump  
Pump designation : PES6P120A720RS7292

: -1  
EP type number : 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1074

: -1K  
Governor no. : 0 421 815 365

Cust. part No. : 0250740902

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 142.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

Tolerance bar : + - 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.00  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.50

## Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.50

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 277.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 8.00  
 Tolerance mm :  $\pm$  0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.53  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1206  
 guide sleeve  
 travel mm : 9.35  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 855  
 guide sleeve  
 travel mm : 5.56  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 540  
 guide sleeve  
 travel mm : 3.09  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1480  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1331  
 Rack travel in mm : 13.50  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 277.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever  
 position degree : 109.0  
 tolerance degree :  $\pm$  4.0  
 rack travel mm : 13.50  
 Rated speed rpm : 1195  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1305  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.70  
 Tolerance mm :  $\pm$  0.70  
 Rated speed rpm : 1400

##### LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree :  $\pm$  4.0

### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.50  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 14.30  
Tolerance mm : + - 0.10

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm : + - 0.10

Rated speed rpm : 600  
rack travel mm : 13.30  
Tolerance mm : + - 0.10

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 14.50  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 10.90  
Tolerance mm : + - 0.15

Rated speed rpm : 1150

Pressure hPa : 850  
rack travel mm : 13.90  
Tolerance mm : + - 0.05

Pressure hPa : 350  
rack travel mm : 11.50  
Tolerance mm : + - 0.20

### START CUT-OUT

Rated speed rpm : < 270  
Check speed 1/min : < 290

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 281.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 275.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.90

Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 957

Injection pump  
Pump designation : PES6P120A720RS7292

: -1  
EP type number : 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1074

: -2K  
Governor no. : 0 421 815 367

Cust. part No. : 0250741002

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 157.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

Tolerance bar : + - 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.00  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.75

Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 8.00  
 Tolerance mm :  $\pm$  0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.53  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1206  
 guide sleeve travel mm : 9.35  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 855  
 guide sleeve travel mm : 5.56  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 550  
 guide sleeve travel mm : 3.17  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1480  
 guide sleeve travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1331  
 Rack travel in mm : 13.50  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever position degree : 109.0  
 tolerance degree :  $\pm$  4.0  
 rack travel mm : 13.40  
 Rated speed rpm : 1195  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1305  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.70  
 Tolerance mm :  $\pm$  0.70  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 65.0  
 tolerance degree :  $\pm$  4.0

### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.40  
Tolerance mm : + 0.05

Rated speed rpm : 950  
rack travel mm : 14.25  
Tolerance mm : + 0.10

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm : + 0.10

Rated speed rpm : 600  
rack travel mm : 13.20  
Tolerance mm : + 0.10

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 14.40  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 10.50  
Tolerance mm : + 0.15

Rated speed rpm : 1150

Pressure hPa : 1050  
rack travel mm : 13.70  
Tolerance mm : + 0.05

Pressure hPa : 400  
rack travel mm : 11.30  
Tolerance mm : + 0.15

### START CUT-OUT

Rated speed rpm : < 270  
Check speed 1/min : < 290

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 285.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1500  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 277.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 143.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0

### BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.80

Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 959

Injection pump  
Pump designation : PES6P120A720RS7292  
: -1  
EP type number : 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1104K  
Governor no. : 0 421 815 368

Cust. part No. : 0250741402

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Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 172.0

---

### TEST BENCH REQUIREMENTS

Inlet Line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1150

---

Rack travel in mm : 14.40  
Tolerance mm : + 0.05

---

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 280.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 8.00  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.53  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1205  
 guide sleeve  
 travel mm : 9.35  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 855  
 guide sleeve  
 travel mm : 5.56  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 540  
 guide sleeve  
 travel mm : 3.09  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1480

guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1329  
 Rack travel in mm : 13.25  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 280.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever  
 position degree : 109.0  
 tolerance degree : + - 4.0  
 rack travel mm : 13.40  
 Rated speed rpm : 1195  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.70  
 Tolerance mm : + - 0.70  
 Rated speed rpm : 1400

##### LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.40  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 14.40  
Tolerance mm : + - 0.10

Rated speed rpm : 750  
rack travel mm : 13.90  
Tolerance mm : + - 0.10

Rated speed rpm : 600  
rack travel mm : 13.40  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 14.40  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 10.40  
Tolerance mm : + - 0.15

Rated speed rpm : 1150

Pressure hPa : 1050  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Pressure hPa : 450  
rack travel mm : 11.30  
Tolerance mm : + - 0.10

#### START CUT-OUT

Rated speed rpm : < 270  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750

Del. quantity cm<sup>3</sup>/1000 strokes : 290.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance cm<sup>3</sup>/1000S. : + - 5.0

Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1500  
Rated speed rpm : 600

Del. quantity cm<sup>3</sup>/1000 strokes : 283.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -

Rated speed rpm : 500

Del. quantity cm<sup>3</sup>/1000 strokes : 134.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.60

Tolerance mm : + - 0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 155.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 960

Injection pump  
Pump designation : PES6P120A720RS7292  
: -1  
EP type number : 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1104  
: -1K  
Governor no. : 0 421 815 371

Cust. part No. : 0250741302

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 157.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery blocking

\*NW after s.o.d. : 3.30

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 8.00  
 Tolerance mm :  $\pm$  0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.53  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1206  
 guide sleeve travel mm : 9.35  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 855  
 guide sleeve travel mm : 5.56  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 540  
 guide sleeve travel mm : 3.09  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1480  
 guide sleeve travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1331  
 Rack travel in mm : 13.40  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever position degree : 109.0  
 tolerance degree :  $\pm$  4.0  
 rack travel mm : 13.40  
 Rated speed rpm : 1195  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1305  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.70  
 Tolerance mm :  $\pm$  0.70  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 65.0  
 tolerance degree :  $\pm$  4.0

### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 6.88

Rated speed rpm : 400

### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.40  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 14.25  
Tolerance mm : + - 0.10

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm : + - 0.10

Rated speed rpm : 600  
rack travel mm : 13.20  
Tolerance mm : + - 0.10

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 14.40  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 10.50  
Tolerance mm : + - 0.15

Rated speed rpm : 1150

Pressure hPa : 1050  
rack travel mm : 13.70  
Tolerance mm : + - 0.05

Pressure hPa : 400  
rack travel mm : 11.30  
Tolerance mm : + - 0.15

### START CUT-OUT

Rated speed rpm : < 270  
Check speed 1/min : < 290

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 285.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1500  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 277.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 143.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

### BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.80

Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 961

Injection pump  
Pump designation : PES6P120A720RS7292  
: -1  
EP type number : 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1104  
: -2K  
Governor no. : 0 421 815 372

Cust. part No. : 0250741202

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 142.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5

Tolerance bar : + - 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.00  
Tolerance mm : + - 0.05  
test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.50

### Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.50

Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 277.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 8.00  
 Tolerance mm :  $\pm$  0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.53  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1206  
 guide sleeve travel mm : 9.35  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 855  
 guide sleeve travel mm : 5.56  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 540  
 guide sleeve travel mm : 3.09  
 Tolerance mm :  $\pm$  0.25

Rated speed rpm : 1480  
 guide sleeve travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1331  
 Rack travel in mm : 13.50  
 Tolerance mm :  $\pm$  1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 277.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever position degree : 108.0  
 tolerance degree :  $\pm$  4.0  
 rack travel mm : 13.50  
 Rated speed rpm : 1195  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1305  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.70  
 Tolerance mm :  $\pm$  0.70  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 70.0  
 tolerance degree :  $\pm$  4.0

### Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm/min. : > 7.00

Rated speed rpm : 400

### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.50  
Tolerance mm : + 0.05

Rated speed rpm : 950  
rack travel mm : 14.30  
Tolerance mm : + 0.10

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm : + 0.10

Rated speed rpm : 600  
rack travel mm : 13.30  
Tolerance mm : + 0.10

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 14.50  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 10.90  
Tolerance mm : + 0.15

Rated speed rpm : 1150

Pressure hPa : 850  
rack travel mm : 13.90  
Tolerance mm : + 0.05

Pressure hPa : 350  
rack travel mm : 11.50  
Tolerance mm : + 0.20

### START CUT-OUT

Rated speed rpm : < 270  
Check speed 1/min : < 290

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 281.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1500  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 275.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0

### BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.90

Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

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LOW IDLE

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 22.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 962

Injection pump  
Pump designation : PES6P120A720RS7292  
EP type number : -1  
: 0 412 726 939

Governor  
Governor design. : RQV350...1150PA1104  
: -3K  
Governor no. : 0 421 815 373

Cust. part No. : 0250741102

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 127.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 100  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105Opening pressure  
bar : 208.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30

Check  
tolerance °NW : + 0.50

Start of delivery blocking

°NW after s.o.d. : 3.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.20  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 271.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 8.00  
 Tolerance mm : +- 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 6.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.53  
 Tolerance mm : +- 0.20  
 Rated speed rpm : 1205  
 guide sleeve travel mm : 9.35  
 Tolerance mm : +- 0.15  
 Rated speed rpm : 855  
 guide sleeve travel mm : 5.56  
 Tolerance mm : +- 0.25  
 Rated speed rpm : 540  
 guide sleeve travel mm : 3.09  
 Tolerance mm : +- 0.25

Rated speed rpm : 1480  
 guide sleeve travel mm : 13.50  
 Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1329  
 Rack travel in mm : 13.20  
 Tolerance mm : +- 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 271.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever position degree : 109.0  
 tolerance degree : +- 4.0  
 rack travel mm : 13.20  
 Rated speed rpm : 1195  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1300  
 Tolerance 1/min : +- 15  
 rack travel mm : 0.70  
 Tolerance mm : +- 0.70  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 65.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 250

CRT mm min. : > 7.00

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 14.20  
Tolerance mm : + 0.05

Rated speed rpm : 950  
rack travel mm : 13.80  
Tolerance mm : + 0.10

Rated speed rpm : 750  
rack travel mm : 13.20  
Tolerance mm : + 0.10

Rated speed rpm : 600  
rack travel mm : 12.80  
Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 14.20  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 11.00  
Tolerance mm : + 0.15

Rated speed rpm : 1150

Pressure hPa : 850  
rack travel mm : 13.50  
Tolerance mm : + 0.05

Pressure hPa : 350  
rack travel mm : 11.70  
Tolerance mm : + 0.10

#### START CUT-OUT

Rated speed rpm : < 270  
Check speed 1/min : < 290

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 262.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1500  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 256.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 166.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 13.20  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.70

Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

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LOW IDLE

Rated speed rpm : 350  
rack travel mm : 8.00  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 967

Injection pump  
Pump designation : PES6P120A320RS7324  
EP type number : 0 412 726 905

Governor  
Governor design. : RQ300/1200PA1132  
Governor no. : 0 421 801 708

Cust. part No. : 51.11103-7296

## Customer-spec. information

Customer : MAN  
Motor : DD826LF11/LFL03  
Power KW : 162.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.15  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 12.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 5.00  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 8.0

Check tolerance :  $\pm$  11.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Rated speed rpm : 1000  
 \_\_\_\_\_  
 Rack travel in mm : 12.45  
 Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 200.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000 strokes : 12.0  
 Rated speed rpm : 300  
 Rack travel in mm : 5.20  
 Tolerance mm :  $\pm$  0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 27.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  6.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000 strokes : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.41  
 Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1257  
 guide sleeve travel mm : 6.37  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 1200  
 guide sleeve travel mm : 6.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 425  
 guide sleeve travel mm : 4.31  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 530  
 guide sleeve travel mm : 6.00  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 1430  
 guide sleeve travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 Rack travel in mm : 20.00  
 Tolerance mm :  $\pm$  0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 200.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000 strokes : 12.0

##### RATED SPEED

control lever position degree : 97.0  
 tolerance degree :  $\pm$  4.0

rack travel mm : 11.45  
Rated speed rpm : 1245  
Tolerance 1/min :  $\pm$  8

rack travel mm : 4.00  
Rated speed rpm : 1328  
Tolerance 1/min :  $\pm$  15

rack travel mm : 0.25  
Tolerance mm :  $\pm$  0.25  
Rated speed rpm : 1460

#### LOW IDLE

control lever  
position degree : 71.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.20  
Tolerance mm :  $\pm$  0.10

rack travel mm : 2.00  
Rated speed rpm : 375  
Tolerance 1/min :  $\pm$  30

Rated speed rpm : 250  
CRT mm min. : > 6.50

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 1200  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 750  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.00  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500  
Pressure hPa : 140  
rack travel mm : 8.35  
Tolerance mm :  $\pm$  0.05

Pressure hPa : 700  
rack travel mm : 11.35  
Tolerance mm :  $\pm$  0.15

#### START CUT-OUT

Rated speed rpm : < 220  
Check  
speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 193.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 129.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 11.45  
Rated speed rpm : 1245  
Tolerance 1/min : + - 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 189.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.20  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.08.95  
Test oil : ISO 4113

Combination No. : 0 402 846 059

Injection pump  
Pump designation : PE6P120A720RS8026  
EP type number : 0 412 826 027

Governor  
Governor design. : RQV200...950PA1091K  
Governor no. : 0 421 815 984

Cust. part No. : 1355081

### Customer-spec. information

Customer : SCANIA  
Motor : DSC1172

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

### REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 3.25  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 383.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
Rated speed rpm	: 250
Rack travel in mm	: 4.40
Tolerance mm	: + 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 16.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve travel mm	: 1.26
Tolerance mm	: + 0.20
Rated speed rpm	: 1008
guide sleeve travel mm	: 9.87
Tolerance mm	: + 0.15
Rated speed rpm	: 800
guide sleeve travel mm	: 6.59
Tolerance mm	: + 0.25
Rated speed rpm	: 310
guide sleeve travel mm	: 2.00
Tolerance mm	: + 0.25
Rated speed rpm	: 360
guide sleeve travel mm	: 2.45
Tolerance mm	: + 0.25
Rated speed rpm	: 520

guide sleeve travel mm	: 3.58
Tolerance mm	: + 0.25
Rated speed rpm	: 1200
guide sleeve travel mm	: 13.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1060
Rack travel in mm	: 12.50
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: -
Del. quantity cm <sup>3</sup> /1000 strokes	: 383.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

##### RATED SPEED

control lever position degree	: 65.0
tolerance degree	: + 4.0
control lever position degree	: 118.0
tolerance degree	: + 4.0
rack travel mm	: 12.50
Rated speed rpm	: 995
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1075
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1150

---

**LOW IDLE**

control lever  
position degree : 71.0  
tolerance degree : +- 4.0

control lever  
position degree : 17.0  
tolerance degree : +- 4.0

**Testing:**

Rated speed rpm : 250  
rack travel mm : 4.40  
Tolerance mm : +- 0.10

Rated speed rpm : 150

CRT mm min. : > 5.40

Rated speed rpm : 325

---

**TORQUE CONTROL**

Rated speed rpm : 700  
rack travel mm : 12.35  
Tolerance mm : +- 0.05

Rated speed rpm : 950  
rack travel mm : 13.50  
Tolerance mm : +- 0.10

Rated speed rpm : 300  
rack travel mm : 10.75  
Tolerance mm : +- 0.20

---

**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 950  
Pressure hPa : 1500  
rack travel mm : 13.50  
Tolerance mm : +- 0.10

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 950  
rack travel mm : 7.00  
Tolerance mm : +- 0.20

Rated speed rpm : 950

Pressure hPa : 520  
rack travel mm : 7.80  
Tolerance mm : +- 0.20

Pressure hPa : 800  
rack travel mm : 9.85  
Tolerance mm : +- 0.05

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : -  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 384.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 189.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 4.0

---

**BREAKAWAY**

Rack travel in mm : 12.50  
Rated speed rpm : 995  
Tolerance 1/min : +- 5

---

**LOW IDLE**

Rated speed rpm : 250  
rack travel mm : 4.40  
Tolerance mm : +- 0.30  
Del. quantity cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.09.95  
Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump  
Pump designation : PES6MW100/120RS1238  
EP type number : 0 413 406 237

Governor  
Governor design. : RSV450...1100MW2A374  
Governor no. : 0 420 085 257

Cust. part No. : 3926881

### Customer-spec. information

Customer : CDC  
Motor : 6 CT-830  
Power KW : 160.0

### TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery blocking

\*NW after s.o.d. : 9.50

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.90  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 143.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000s. : + 4.0

Spred	
Tolerance	
cm3/1000 strokes	: 4.0
Check tolerance	
cm3/1000S.	: 7.5
Rated speed rpm	: 450
Rack travel in mm	: 5.30
Tolerance mm	: + 0.30
Del. quantity	
cm3/1000 strokes	: 12.0
Tolerance	
cm3/1000 strokes	: + 2.0
Check tolerance	
cm3/1000S.	: + 4.5
Spred	
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 800
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
governor spring pre-tension click setting x	: 4.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 1100
Del. quantity	
cm3/1000 strokes	: 143.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spred	
Tolerance	
cm3/1000 strokes	: 4.0
Check tolerance	
cm3/1000S.	: 7.5

##### RATED SPEED

control lever	
position degree	: 104.0
tolerance degree	: + 4.0
rack travel mm	: 10.90
Rated speed rpm	: 1150
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1270
Tolerance 1/min	: + 15
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1400
rack travel mm	: 4.00
Rated speed rpm	: 1225

##### LOW IDLE

control lever	
position degree	: 82.0
tolerance degree	: + 4.0

##### Testing:

Rated speed rpm	: 450
rack travel mm	: 5.30
Tolerance mm	: + 0.10
Rated speed rpm	: 100
CRT mm min.	: > 19.50

##### TORQUE CONTROL

Rated speed rpm	: 1100
rack travel mm	: 11.90
Tolerance mm	: + 0.05
Rated speed rpm	: 750
rack travel mm	: 12.40
Tolerance mm	: + 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1100  
rack travel mm : 12.45  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : + - 0.05

Rated speed rpm : 500

Pressure hPa : 850  
rack travel mm : 12.00  
Tolerance mm : + - 0.20

Pressure hPa : 625  
rack travel mm : 11.00  
Tolerance mm : + - 0.10

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1150  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 13.0

#### LOW IDLE

Rated speed rpm : 450  
rack travel mm : 5.30  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.09.95  
Test oil : ISO 4113

Combination No. : 0 403 466 168

Injection pump  
Pump designation : PES6MW100/120RS1238  
EP type number : 0 413 406 237

Governor  
Governor design. : RSV450...1000MW2A389  
Governor no. : C 420 085 269

Cust. part No. : 3929167

## Customer-spec. information

Customer : CDC  
Motor : 6 CT-830  
Power KW : 134.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.50

Start of delivery blocking

\*NW after s.o.d. : 9.50

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 126.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 450  
 Rack travel in mm : 6.50  
 Tolerance mm : + 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 28.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.5  
 Spread Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring pre-tension click setting x : 3.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 126.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread Tolerance cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance cm<sup>3</sup>/1000S. : 7.5

##### RATED SPEED

control lever position degree	:	99.0
tolerance degree	:	+ 4.0
rack travel mm	:	10.60
Rated speed rpm	:	1050
Tolerance 1/min	:	+ 5
rack travel mm	:	4.00
Rated speed rpm	:	1155
Tolerance 1/min	:	+ 15
rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1300
rack travel mm	:	4.00
Rated speed rpm	:	1165

##### LOW IDLE

control lever position degree : 82.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm	:	450
rack travel mm	:	6.50
Tolerance mm	:	+ 0.10
Rated speed rpm	:	100
CRT mm min.	:	> 19.00

##### TORQUE CONTROL

Rated speed rpm	:	1000
rack travel mm	:	11.60
Tolerance mm	:	+ 0.05
Rated speed rpm	:	750
rack travel mm	:	12.40
Tolerance mm	:	+ 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.10

## MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 500

Pressure hPa : 650  
rack travel mm : 12.10  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 550  
rack travel mm : 11.70  
Tolerance mm :  $\pm$  0.10

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

## BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1050  
Tolerance 1/min :  $\pm$  5

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm :  $\pm$  1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  13.0

## LOW IDLE

Rated speed rpm : 450  
rack travel mm : 6.50  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 28.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.05.95  
Test oil : ISO 4113

Combination No. : 0 400 836 018

Injection pump  
Pump designation : PES6A80D410/3RS2527  
EP type number : 0 410 886 059

Governor  
Governor design. : RQ275/1400AB798DL  
Governor no. : 0 420 202 239

Cust. part No. :

## Customer-spec. information

Customer : KHD  
Motor : F6L912  
Power KW : 88.3

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.65  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 65.5

Tolerance  
cm³/1000 strokes : + 0.5

Check tolerance  
cm³/1000S. : + 2.0

Spread  
Tolerance  
cm³/1000 strokes : 2.0

Check tolerance  
cm³/1000S. : 3.5

Rated speed rpm : 275

Rack travel in mm : 5.45  
Tolerance mm : + 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 650

Rack travel in mm : 16.00  
 Tolerance mm : + 0.40

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 65.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.5

RATED SPEED

Rack travel mm : 10.60  
 Rated speed rpm : 1453  
 Tolerance 1/min : + 8

Rack travel mm : 4.00  
 Rated speed rpm : 1550  
 Tolerance 1/min : + 15

Rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1650

LOW IDLE

Testing:

Rated speed rpm	:	275
rack travel mm	:	5.45
Tolerance mm	:	+ 0.05
rack travel mm	:	2.00
Rated speed rpm	:	450
Tolerance 1/min	:	+ 20
Rated speed rpm	:	100
CRT mm min.	:	> 7.00
Rated speed rpm	:	600
CRT mm max.	:	< 1.00

TORQUE CONTROL

Dimension a mm	:	0.65
Rated speed rpm	:	1400
rack travel mm	:	11.65
Tolerance mm	:	+ 0.05

Rated speed rpm	:	650
rack travel mm	:	13.10
Tolerance mm	:	+ 0.10

Rated speed rpm	:	810
rack travel mm	:	12.70
Tolerance mm	:	+ 0.10

Rated speed rpm	:	1015
rack travel mm	:	11.95
Tolerance mm	:	+ 0.15

BREAKAWAY

Rack travel in mm	:	10.60
Rated speed rpm	:	1453
Tolerance 1/min	:	+ 8

STARTING FUEL DELIVERY

Rated speed rpm	:	100
rack travel mm	:	17.30
Tolerance mm	:	+ 0.30
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	105.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 8.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.45  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 13.09.95  
Test oil : ISO 4113

Combination No. : 0 402 736 885

Injection pump  
Pump designation : PES6P120A120RS7370  
EP type number : 0 412 726 934

Governor  
Governor design. : RQV400...1250PA1212K  
Governor no. : 0 421 815 462

Cust. part No. : 3929688

## Customer-spec. information

Customer : CDC  
Motor : 68TA-A  
Power KW : 131.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

## Start of delivery blocking

\*NW after s.o.d. : 6.50  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.85  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 170.0

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance  
cm³/1000S. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 420

guide sleeve  
travel mm : 1.56

Tolerance mm : +- 0.20

Rated speed rpm : 1412

guide sleeve  
travel mm : 9.88

Tolerance mm : +- 0.15

Rated speed rpm : 1020

guide sleeve  
travel mm : 5.97

Tolerance mm : +- 0.25

Rated speed rpm : 2000

guide sleeve  
travel mm : 13.50

Tolerance mm : +- 0.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever  
position degree : 114.0

tolerance degree : +- 6.0

rack travel mm : 12.80

Rated speed rpm : 1330

Tolerance 1/min : +- 15

rack travel mm : 4.00

Rated speed rpm : 1580

Tolerance 1/min : +- 5

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 1700

##### LOW IDLE

control lever  
position degree : 62.5

tolerance degree : +- 6.0

##### Testing:

Rated speed rpm : 420

rack travel mm : 6.20

Tolerance mm : +- 0.20

Rated speed rpm : 300

CRT mm min. : > 7.20

Rated speed rpm : 425

##### TORQUE CONTROL

Rated speed rpm : 1250

rack travel mm : 13.85

Tolerance mm : +- 0.05

Rated speed rpm : 800

rack travel mm : 11.80

Tolerance mm : +- 0.10

Rated speed rpm : 1000

rack travel mm : 12.50

Tolerance mm : +- 0.20

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1200

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 9.40  
Tolerance mm : + - 0.20

Rated speed rpm : 1250

Pressure hPa : 440  
rack travel mm : 12.55  
Tolerance mm : + - 0.30

Pressure hPa : 265  
rack travel mm : 10.80  
Tolerance mm : + - 0.20

---

### START CUT-OUT

Rated speed rpm : < 315  
Check  
speed 1/min : < 325

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 800  
Del. quantity  
cm3/1000 strokes : 123.5  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1250  
Del. quantity  
cm3/1000 strokes : 96.0  
Tolerance  
cm3/1000 strokes : + - 1.0

---

Check tolerance  
cm3/1000S. : + - 4.0

---

### BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 1330  
Tolerance 1/min : + - 15

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.70  
Tolerance mm : + - 0.50  
Del. quantity  
cm3/1000 strokes : 157.0  
Tolerance  
cm3/1000 strokes : + - 20.0  
Check tolerance  
cm3/1000S. : + - 25.0

---

### LOW IDLE

Del. quantity  
cm3/1000 strokes : 19.5  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 5.0  
Spread  
Tolerance  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.09.95  
Test oil : ISO 4113

Combination No. : 0 401 446 150

Injection pump  
Pump designation : PE6R130/720RS1506  
EP type number : 0 411 436 002

Governor  
Governor design. : RQV250...1050R4K  
Governor no. : 0 421 415 003

Cust. part No. : 865 020 P02 v. 08/94

## Customer-spec. information

Customer : PENTA  
Motor : TAMD163 P-A  
Power KW : 553.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30

Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.40  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 450.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 \_\_\_\_\_  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 13.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 17.0  
 \_\_\_\_\_  
 Rated speed rpm : 250  
 \_\_\_\_\_  
 Rack travel in mm : 6.65  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 95.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 7.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 15.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.26  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1106  
 guide sleeve  
 travel mm : 9.18  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 895  
 guide sleeve  
 travel mm : 6.42  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 310  
 guide sleeve  
 travel mm : 2.00  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 360  
 guide sleeve  
 travel mm : 2.41  
 Tolerance mm : + - 0.25

Rated speed rpm : 570  
 guide sleeve  
 travel mm : 3.54  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1360  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1205  
 \_\_\_\_\_  
 Rack travel in mm : 11.00  
 Tolerance mm : + - 2.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 2200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 450.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 13.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 17.0

##### RATED SPEED

control lever  
 position degree : 65.0  
 tolerance degree : + - 4.0  
 \_\_\_\_\_  
 control lever  
 position degree : 119.0  
 tolerance degree : + - 4.0  
 \_\_\_\_\_  
 rack travel mm : 13.40  
 Rated speed rpm : 1105  
 Tolerance 1/min : + - 5  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1200  
 Tolerance 1/min : + - 15  
 \_\_\_\_\_  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1300

---

**LOW IDLE**

control lever  
position degree : 74.0  
tolerance degree : + - 4.0

control lever  
position degree : 20.0  
tolerance degree : + - 4.0

**Testing:**

Rated speed rpm : 250  
rack travel mm : 6.65  
Tolerance mm : + - 0.10

Rated speed rpm : 150

CRT mm min. : > 7.70

Rated speed rpm : 380

---

**TORQUE CONTROL**

Rated speed rpm : 1050  
rack travel mm : 14.40  
Tolerance mm : + - 0.05

Rated speed rpm : 850  
rack travel mm : 13.20  
Tolerance mm : + - 0.15

Rated speed rpm : 975  
rack travel mm : 14.30  
Tolerance mm : + - 0.20

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 1050  
Pressure hPa : 2200  
rack travel mm : 14.40  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.70  
Tolerance mm : + - 0.15

Rated speed rpm : 1050

Pressure hPa : 1580  
rack travel mm : 5.10  
Tolerance mm : + - 0.10

Pressure hPa : 400  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 2200  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 412.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 7.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 19.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 238.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

---

**BREAKAWAY**

Rack travel in mm : 13.40  
Rated speed rpm : 1105  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 13.10  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 385.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 25.0

---

**LOW IDLE**

Rated speed rpm : 250  
rack travel mm : 6.65  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 7.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 11.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 21.09.95  
Test oil : ISO 4113

Combination No. : 0 401 848 829

Injection pump  
Pump designation : PE8P110A320LS3865  
EP type number : 0 411 818 728

Governor  
Governor design. : RQ250/1150PA1250  
Governor no. : 0 421 801 796

Cust. part No. :

## Customer-spec. information

Customer : DAEWOO  
Motor : V2-8NA

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.00  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance  
Check  
tolerance °NW : + 0.30

## Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.80  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 126.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

Rated speed rpm : 250

Rack travel in mm : 8.10  
 Tolerance mm : +- 0.30

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.59  
 Tolerance mm : +- 0.20

Rated speed rpm : 1205  
 guide sleeve  
 travel mm : 7.34  
 Tolerance mm : +- 0.15

Rated speed rpm : 1150  
 guide sleeve  
 travel mm : 7.00  
 Tolerance mm : +- 0.10

Rated speed rpm : 414  
 guide sleeve  
 travel mm : 5.47  
 Tolerance mm : +- 0.10

Rated speed rpm : 510  
 guide sleeve  
 travel mm : 7.00  
 Tolerance mm : +- 0.10

Rated speed rpm : 1340  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 700  
 Rack travel in mm : 15.50  
 Tolerance mm : +- 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 126.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

##### RATED SPEED

control lever  
 position degree : 36.0  
 tolerance degree : +- 4.0

control lever  
 position degree : 98.0  
 tolerance degree : +- 4.0

rack travel mm : 10.80  
 Rated speed rpm : 1203  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1260  
 Tolerance 1/min : +- 15

rack travel mm : 0.50  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1350

##### LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree : +- 4.0

control lever  
position degree : 14.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 8.10  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : + - 20

Rated speed rpm : 150

CRT mm min. : > 9.90

---

TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 11.80  
Tolerance mm : + - 0.05

Rated speed rpm : 650  
rack travel mm : 11.80  
Tolerance mm : + - 0.10

---

START CUT-OUT

Rated speed rpm : < 170  
Check  
speed 1/min : < 190

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm3/1000 strokes : 127.0  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0

---

BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 1203  
Tolerance 1/min : + - 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 135.0  
Tolerance  
cm3/1000 strokes : + - 20.0  
Check tolerance  
cm3/1000S. : + - 24.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 8.10  
Tolerance mm : + - 0.30  
Del. quantity  
cm3/1000 strokes : 25.0  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.09.95  
Test oil : ISO 4113

Combination No. : 0 401 876 789

Injection pump  
Pump designation : PE6P120A320RS3189  
EP type number : 0 411 826 759

Governor  
Governor design. : RSV650...750P4A421  
: -13  
Governor no. : 0 421 833 466

Cust. part No. : 864818 P04 v. 12/95

## Customer-spec. information

Customer : PENTA  
Motor : TD710G

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 195  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.00  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 180.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 650  
 Rack travel in mm : 3.20  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 180.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 92.0  
 tolerance degree : + - 4.0  
 rack travel mm : 8.00  
 Rated speed rpm : 753  
 Tolerance 1/min : + - 3  
 rack travel mm : 4.00  
 Rated speed rpm : 779  
 Tolerance 1/min : + - 7  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 900

##### LOW IDLE

control lever  
 position degree : 86.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 650  
 rack travel mm : 3.20  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 660  
 Tolerance 1/min : + - 30

##### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

##### TORQUE CONTROL

Rated speed rpm : 700  
 rack travel mm : 9.00  
 Tolerance mm : + - 0.05

---

### BREAKAWAY

Rack travel in mm : 8.00  
Rated speed rpm : 753  
Tolerance 1/min : + - 3

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50

---

### LOW IDLE

Rated speed rpm : 650  
rack travel mm : 3.20  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.06.95  
Test oil : ISO 4113

Combination No. : 0 401 876 792

Injection pump  
Pump designation : PE6P120A320RS3313  
EP type number : 0 411 826 807

Governor  
Governor design. : RSV350...1100P8A558  
Governor no. : 0 421 833 397

Cust. part No. : 1342533

---

Customer-spec. information  
Customer : SCANIA  
Motor : D9

---

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : +- 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : +- 1.5

Test Lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

---

### REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 4.45  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance check  
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 11.65  
Tolerance mm : +- 0.05

---

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 144.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 5.10  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 18.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring  
 pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 144.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever  
 position degree : 60.0  
 tolerance degree : + - 4.0  
 control lever  
 position degree : 110.0  
 tolerance degree : + - 4.0  
 rack travel mm : 10.60  
 Rated speed rpm : 1145  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1210  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1350  
 rack travel mm : 4.00  
 Rated speed rpm : 1225

##### LOW IDLE

control lever  
 position degree : 78.0  
 tolerance degree : + - 4.0  
 control lever  
 position degree : 28.0  
 tolerance degree : + - 4.0  
 Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 4.60

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 5.10  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 550

Tolerance 1/min : + 30

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.65  
Tolerance mm : + 0.05

Rated speed rpm : 1100  
rack travel mm : 11.65  
Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.65  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.30  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 210  
rack travel mm : 10.70  
Tolerance mm : + 0.15

Pressure hPa : 280  
rack travel mm : 11.15  
Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 106.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.30  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 24.0

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.09.95  
Test oil : ISO 4113

Combination No. : 0 401 876 800

Injection pump  
Pump designation : PE6P120A320RS3313  
EP type number : 0 411 826 807

Governor  
Governor design. : RSV350...1050P8A558  
: -1  
Governor no. : 0 421 833 423

Cust. part No. : 1351267

### Customer-spec. information

Customer : SCANIA  
Motor : D9

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : +- 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : +- 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

Start-of-delivery setting with ROBO diaphragm.

### (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 4.45  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.35  
Tolerance mm : +- 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 160.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 5.10  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 18.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring  
 pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 160.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever  
 position degree : 56.0  
 tolerance degree : + - 4.0  
 control lever  
 position degree : 106.0  
 tolerance degree : + - 4.0  
 rack travel mm : 10.10  
 Rated speed rpm : 1095  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1170  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1300

##### LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree : + - 4.0  
 control lever  
 position degree : 28.0  
 tolerance degree : + - 4.0  
 Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 4.60

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 5.10  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 550  
 Tolerance 1/min : + - 30

---

#### TORQUE CONTROL

Rated speed rpm	:	700
rack travel mm	:	12.35
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	1050
rack travel mm	:	11.15
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	925
rack travel mm	:	11.95
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	950
rack travel mm	:	11.50
Tolerance mm	:	+ - 0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	500
Pressure hPa	:	1500
rack travel mm	:	12.35
Tolerance mm	:	+ - 0.05

##### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	10.50
Tolerance mm	:	+ - 0.20

Rated speed rpm : 500

Pressure hPa	:	230
rack travel mm	:	10.95
Tolerance mm	:	+ - 0.15

Pressure hPa	:	310
rack travel mm	:	11.35
Tolerance mm	:	+ - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 136.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1095  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.06.95  
Test oil : ISO 4113

Combination No. : 0 401 876 806

**Injection pump**  
Pump designation : PE6P120A320RS3313  
EP type number : 0 411 826 807

Governor  
Governor design. : RSV350...1100P8A558  
: -2  
Governor no. : 0 421 833 474

Cust. part No. : 1376947

---

**Customer-spec. information**  
Customer : SCANIA  
Motor : D 9

---

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

Start-of-delivery setting with ROBO diaphragm.

**(A) INJECTION PUMP SETTING VALUES**  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.65  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 144.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 5.10  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 18.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring  
 pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 144.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever  
 position degree : 63.0  
 tolerance degree : + - 4.0  
 control lever  
 position degree : 113.0  
 tolerance degree : + - 4.0  
 rack travel mm : 10.60  
 Rated speed rpm : 1145  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1210  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1350  
 rack travel mm : 4.00  
 Rated speed rpm : 1225

##### LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree : + - 4.0  
 control lever  
 position degree : 28.0  
 tolerance degree : + - 4.0  
 Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 4.60

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 5.10  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 550

Tolerance 1/min : + 30

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.65  
Tolerance mm : + 0.05

Rated speed rpm : 1100  
rack travel mm : 11.65  
Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.65  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 230  
rack travel mm : 10.95  
Tolerance mm : + 0.15

Pressure hPa : 310  
rack travel mm : 11.35  
Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : -  
Rated speed rpm : 1100  
Del. quantity cm3/1000 strokes : 145.0  
Tolerance cm3/1000 strokes : + 4.0  
Check tolerance cm3/1000S. : + 6.0

##### Aneroid pressure

hPa : -  
Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 114.0  
Tolerance cm3/1000 strokes : + 1.0  
Check tolerance cm3/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1145  
Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm : + 0.20

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : + 0.30  
Del. quantity cm3/1000 strokes : 18.0  
Tolerance cm3/1000 strokes : + 3.0  
Check tolerance cm3/1000S. : + 6.0  
Spread Tolerance cm3/1000 strokes : 4.0  
Check tolerance cm3/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.06.95  
Test oil : ISO 4113

Combination No. : 0 401 876 807

Injection pump  
Pump designation : PE6P120A320RS3313  
EP type number : 0 411 826 807

Governor  
Governor design. : RSV350...1100P8A558  
: -3  
Governor no. : 0 421 833 475

Cust. part No. : 1374851

### Customer-spec. information

Customer : SCANIA  
Motor : DS19 43M

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 190  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

### REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.85  
 Tolerance mm : + - 0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 205.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0  
 Rated speed rpm : 350  
 Rack travel in mm : 5.10  
 Tolerance mm : + - 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 18.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : -

Del. quantity cm<sup>3</sup>/1000 strokes : 205.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

##### RATED SPEED

control lever position degree : 63.0  
 tolerance degree : + - 4.0  
 control lever position degree : 113.0  
 tolerance degree : + - 4.0  
 rack travel mm : 12.80  
 Rated speed rpm : 1145  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1230  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1350  
 rack travel mm : 4.00  
 Rated speed rpm : 1240

##### LOW IDLE

control lever position degree : 77.0  
 tolerance degree : + - 4.0  
 control lever position degree : 28.0  
 tolerance degree : + - 4.0  
 Setting point w/out bumper spring

Rated speed rpm : 350  
 rack travel mm : 4.60

##### Testing:

Rated speed rpm : 350  
 rack travel mm : 5.10

Tolerance mm : + - 0.10  
rack travel mm : 2.00  
Rated speed rpm : 525  
Tolerance 1/min : + - 30

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.85  
Tolerance mm : + - 0.05

Rated speed rpm : 1100  
rack travel mm : 13.85  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.85  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 320  
rack travel mm : 11.15  
Tolerance mm : + - 0.20

Pressure hPa : 610  
rack travel mm : 12.85  
Tolerance mm : + - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : -  
Rated speed rpm : 1100  
Del. quantity cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 12.80  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm : + - 0.20

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : + - 0.30  
Del. quantity cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 27.09.95  
Test oil : ISO 4113

Combination No. : 0 401 878 718

Injection pump  
Pump designation : PE8P110A320LS3862  
EP type number : 0 411 818 727

Governor  
Governor design. : RSV350...1050POA617  
Governor no. : 0 421 833 508

Cust. part No. : 0260749502

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM442  
Power KW : 195.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.5

Check tolerance  
cm<sup>3</sup>/1000S. : 13.0

Rated speed rpm : 350

Rack travel in mm : 7.60  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance

cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance

cm<sup>3</sup>/1000S. : + 5.5  
Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.5

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + 0.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Spred  
Tolerance

cm<sup>3</sup>/1000 strokes : 8.5

Check tolerance  
cm<sup>3</sup>/1000S. : 13.0

##### RATED SPEED

control lever  
position degree : 96.0  
tolerance degree : + 4.0

rack travel mm : 10.90  
Rated speed rpm : 1095  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1165  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 350  
rack travel mm : 5.80  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 405  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

##### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

##### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.90  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 11.90  
Tolerance mm : + 0.10

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 122.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 11.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

End of test specification sheet

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1095  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 7.60  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

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## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.09.95  
Test oil : ISO 4113

Combination No. : 0 402 046 869

Injection pump  
Pump designation : PES6P110A320RS3349  
EP type number : 0 412 016 753

Governor  
Governor design. : RQV350...1400PA1220K  
Governor no. : 0 421 815 471

Cust. part No. : 16700-08801

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Customer-spec. information  
Customer : NISSAN-MISA  
Motor : M 3.6 TI N  
Power KW : 150.0

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## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. L/h : 100  
Tolerance L/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 15.40  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 172.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 \_\_\_\_\_  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 350  
 \_\_\_\_\_  
 Rack travel in mm : 9.80  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 28.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.46  
 Tolerance mm : + 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1422  
 guide sleeve  
 travel mm : 10.03  
 Tolerance mm : + 0.15  
 \_\_\_\_\_  
 Rated speed rpm : 996  
 guide sleeve  
 travel mm : 6.78  
 Tolerance mm : + 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 610  
 guide sleeve  
 travel mm : 3.96  
 Tolerance mm : + 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1730  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 \_\_\_\_\_  
 Rack travel in mm : 14.40  
 Tolerance mm : + 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 172.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 66.0  
 tolerance degree : + 4.0  
 \_\_\_\_\_  
 control lever  
 position degree : 301.0  
 tolerance degree : + 4.0  
 \_\_\_\_\_  
 rack travel mm : 14.40  
 Rated speed rpm : 1410  
 Tolerance 1/min : + 5  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1590  
 Tolerance 1/min : + 15  
 \_\_\_\_\_  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1680

##### LOW IDLE

control lever  
 position degree : 262.0  
 tolerance degree : + 4.0

control lever  
position degree : 27.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 9.80  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 11.00

Rated speed rpm : 400

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 15.40  
Tolerance mm : + - 0.05

Rated speed rpm : 780  
rack travel mm : 13.90  
Tolerance mm : + - 0.15

Rated speed rpm : 1000  
rack travel mm : 14.30  
Tolerance mm : + - 0.20

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1300  
Pressure hPa : 1500  
rack travel mm : 15.40  
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1300  
rack travel mm : 12.10  
Tolerance mm : + - 0.20

Rated speed rpm : 1300

Pressure hPa : 425  
rack travel mm : 12.80  
Tolerance mm : + - 0.15

Pressure hPa : 775  
rack travel mm : 14.60  
Tolerance mm : + - 0.05

START CUT-OUT

Rated speed rpm : > 270  
Check speed 1/min : > 300

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 780  
Del. quantity cm<sup>3</sup>/1000 strokes : 152.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1500  
Rated speed rpm : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 159.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

BREAKAWAY

Rack travel in mm : 14.40  
Rated speed rpm : 1410  
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 9.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 28.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 28.09.95  
Test oil : ISO 4113

Combination No. : 0 402 066 704

Injection pump  
Pump designation : PES6P120A120RS3358  
EP type number : 0 412 026 784

Governor  
Governor design. : RSV475...1250P2A613  
Governor no. : 0 421 833 501

Cust. part No. : 3927359

## Customer-spec. information

Customer : CDC  
Motor : 6BTA-590 ELITE  
Power KW : 149.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

\*NW after s.o.d. : 7.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.90  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 152.0  
  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
  
 Rated speed rpm : 475  
  
 Rack travel in mm : 5.50  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 22.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.5  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 152.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

##### RATED SPEED

control lever position degree	:	110.0
Tolerance degree	:	+ - 4.0
rack travel mm	:	11.90
Rated speed rpm	:	1320
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00
Rated speed rpm	:	1420
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1500

##### LOW IDLE

control lever position degree	:	84.0
Tolerance degree	:	+ - 4.0

##### Testing:

Rated speed rpm	:	475
rack travel mm	:	5.50
Tolerance mm	:	+ - 0.10
rack travel mm	:	2.00
Rated speed rpm	:	570
Tolerance 1/min	:	+ - 30

##### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

##### TORQUE CONTROL

Rated speed rpm	:	1250
rack travel mm	:	11.90
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	750
rack travel mm	:	11.90
Tolerance mm	:	+ - 0.10

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.90  
Tolerance mm :  $\pm$  0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.10  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 975  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 575  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.05

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

## BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1320  
Tolerance 1/min :  $\pm$  5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  20.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  25.0

---

### LOW IDLE

Rated speed rpm : 475  
rack travel mm : 5.50  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 27.09.95  
Test oil : ISO 4113

Combination No. : 0 402 066 707

Injection pump  
Pump designation : PES6P120A120RS3358  
EP type number : 0 412 026 784

Governor  
Governor design. : RSV475...1100P2A618  
Governor no. : 0 421 833 513

Cust. part No. : 3927356

## Customer-spec. information

Customer : CDC  
Motor : 6STA ELITE  
Power KW : 136.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

\*NW after s.o.d. : 6.75  
Tolerance : + 0.50  
Check  
tolerance \*NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.00  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 155.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 475  
 Rack travel in mm : 5.60  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 24.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 155.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

##### RATED SPEED

control lever  
 position degree : 100.0  
 tolerance degree : + - 4.0  
 rack travel mm : 11.00  
 Rated speed rpm : 1145  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1230  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1350

##### LOW IDLE

control lever  
 position degree : 79.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 475  
 rack travel mm : 5.60  
 Tolerance mm : + - 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 550  
 Tolerance 1/min : + - 30

##### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

##### TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 12.00  
 Tolerance mm : + - 0.05  
 Rated speed rpm : 750  
 rack travel mm : 12.00  
 Tolerance mm : + - 0.10

---

## ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.00  
Tolerance mm : + - 0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.60  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 11.60  
Tolerance mm : + - 0.20

Pressure hPa : 600  
rack travel mm : 10.50  
Tolerance mm : + - 0.05

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 108.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

## BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : + - 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 25.0

---

### LOW IDLE

Rated speed rpm : 475  
rack travel mm : 5.60  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.09.95  
Test oil : ISO 4113

Combination No. : 0 402 636 800

Injection pump  
Pump designation : PE6P130A720/3LS7827  
EP type number : 0 412 636 814

Governor  
Governor design. : RQV400...1150PA937  
Governor no. : 0 421 813 823

Cust. part No. :

## Customer-spec. information

Customer : IVECO-FIAT  
Motor : 8262.43.001

## TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.15  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 6- 5- 4- 3-  
: 2

Phasing : 0-75-120-195-240  
: -315

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.75  
Tolerance mm : + - 0.05

Del. quantity  
cm3/1000 strokes : 269.5

Tolerance  
cm3/1000 strokes : + - 1.5

Check tolerance  
cm3/1000S. : + - 5.0

Spread

Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0  
 Rated speed rpm : 400  
 Rack travel in mm : 5.00  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 24.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 7.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 10.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 14.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
 guide sleeve  
 travel mm : 2.75  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1204  
 guide sleeve  
 travel mm : 7.21  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 1150  
 guide sleeve  
 travel mm : 7.05  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 4.50  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 650  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1390  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + - 0.50

#### GUIDE SLEEVE POSITION

Rated speed rpm : 850  
 Rack travel in mm : 17.50  
 Tolerance mm : + - 1.00

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 269.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### RATED SPEED

control lever  
 position degree : 113.0  
 tolerance degree : + - 4.0  
 rack travel mm : 10.70  
 Rated speed rpm : 1195  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1255  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350  
 rack travel mm : 4.00

#### LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + - 4.0  
 Testing:  
 Rated speed rpm : 400

rack travel mm : 5.00  
Tolerance mm : + - 0.10

Rated speed rpm : 100

CRT mm min. : > 6.50

Rated speed rpm : 475

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 11.75  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 11.75  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 11.75  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.60  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 650  
rack travel mm : 10.75  
Tolerance mm : + - 0.05

Pressure hPa : 250  
rack travel mm : 9.30  
Tolerance mm : + - 0.10

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 278.5  
Tolerance  
cm3/1000 strokes : + - 3.5

Check tolerance  
cm3/1000S. : + - 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 166.5  
Tolerance  
cm3/1000 strokes : + - 1.5  
Check tolerance  
cm3/1000S. : + - 5.0

#### BREAKAWAY

Rack travel in mm : 10.70  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

Low idle  
Rated speed rpm : 400  
rack travel mm : 5.00  
Tolerance mm : + - 0.20  
Del. quantity  
cm3/1000 strokes : 24.0  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 7.0  
Spread  
Tolerance  
cm3/1000 strokes : 10.0  
Check tolerance  
cm3/1000S. : 14.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.95  
Test oil : ISO 4113

Combination No. : 0 402 640 842

Injection pump  
Pump designation : PE12P120A520/5RS7304  
EP type number : 0 412 620 838

Governor  
Governor design. : RQV300...550/1050PA1  
: 093  
Governor no. : 0 421 814 067

Cust. part No. :

## Customer-spec. information

Customer : MWM  
Motor : TBD234-FAUN

## TEST BENCH REQUIREMENTS

Inlet line : 3.1,3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Overflow quantity  
min. l/h : 170  
Tolerance l/h : +- 10.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 5.20  
Tolerance mm : +- 0.05  
test only : +- 0.10

Rack travel in mm : 19.50  
Tolerance mm : +- 1.50

Firing order : 1- 2- 9-10- 5- 6  
: - 11- 12- 3- 4  
: - 7- 8

Phasing : 0-30-60-90-120-150  
: -180-210-240-270  
: -300-330  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.60  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 300
Rack travel in mm	: 6.75
Tolerance mm	: + 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 38.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 5.0
Check tolerance cm <sup>3</sup> /1000S.	: + 8.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.30
Tolerance mm	: + 0.25
Rated speed rpm	: 1107
guide sleeve travel mm	: 6.75
Tolerance mm	: + 0.25
Rated speed rpm	: 1050
guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.25
Rated speed rpm	: 586
guide sleeve travel mm	: 5.55
Tolerance mm	: + 0.25
Rated speed rpm	: 636
guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.25
Rated speed rpm	: 500

guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.25
Rated speed rpm	: 1260
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1190
Rack travel in mm	: 12.60
Tolerance mm	: + 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure hPa	: 1250
Del. quantity cm <sup>3</sup> /1000 strokes	: 235.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### RATED SPEED

control lever position degree	: 51.0
tolerance degree	: + 4.0
control lever position degree	: 115.0
tolerance degree	: + 4.0
rack travel mm	: 12.60
Rated speed rpm	: 1095
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1155
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1300

---

#### LOW IDLE

control lever  
position degree : 85.0  
tolerance degree : + - 4.0

control lever  
position degree : 20.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.75  
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm/min. : > 8.80

Rated speed rpm : 300

---

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 14.70  
Tolerance mm : + - 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 2000  
rack travel mm : 14.70  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 225  
rack travel mm : 10.70  
Tolerance mm : + - 0.25

Pressure hPa : 595  
rack travel mm : 12.20  
Tolerance mm : + - 0.05

Pressure hPa : 1250  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Pressure hPa : 1450  
rack travel mm : 13.95  
Tolerance mm : + - 0.25

---

#### START CUT-OUT

Rated speed rpm : < 220  
Check speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1250  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 234.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1095  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 274.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.75  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 12.09.95  
Test oil : ISO 4113

Combination No. : 0 402 646 657

Injection pump  
Pump designation : PE6P130A320RS7368  
EP type number : 0 412 636 836

Governor  
Governor design. : RQV250...1125PA1210K  
Governor no. : 0 421 815 460

Cust. part No. : 866737-P03 V. 05/95

## Customer-spec. information

Customer : PENTA  
Motor : TAMD 122 P  
Power KW : 426.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Vibration  
damper  
(RoBo diaphragm) : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 7.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1125

Rack travel in mm : 11.50  
Tolerance mm : + 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 318.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.5
Check tolerance cm <sup>3</sup> /1000S.	: + 5.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 9.0
Check tolerance cm <sup>3</sup> /1000S.	: 13.0
Del. quantity cm <sup>3</sup> /1000 strokes	: 20.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 7.0
Check tolerance cm <sup>3</sup> /1000S.	: 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.93
Tolerance mm	: + 0.25
Rated speed rpm	: 1157
guide sleeve	
travel mm	: 11.17
Tolerance mm	: + 0.25
Rated speed rpm	: 823
guide sleeve	
travel mm	: 7.14
Tolerance mm	: + 0.25
Rated speed rpm	: 325
guide sleeve	
travel mm	: 2.31
Tolerance mm	: + 0.25
Rated speed rpm	: 375
guide sleeve	
travel mm	: 2.96
Tolerance mm	: + 0.25

Rated speed rpm	: 490
guide sleeve	
travel mm	: 3.90
Tolerance mm	: + 0.25
Rated speed rpm	: 1320
guide sleeve	
travel mm	: 13.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1200
Rack travel in mm	: 10.50
Tolerance mm	: + 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1125
Aneroid pressure	
hPa	: 2000
Del. quantity cm <sup>3</sup> /1000 strokes	: 318.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.5
Check tolerance cm <sup>3</sup> /1000S.	: + 5.0
Spread	
Tolerance cm <sup>3</sup> /1000 strokes	: 9.0
Check tolerance cm <sup>3</sup> /1000S.	: 13.0

##### RATED SPEED

control lever	
position degree	: 70.0
Tolerance degree	: + 4.0
control lever	
position degree	: 122.0
Tolerance degree	: + 4.0
rack travel mm	: 10.50
Rated speed rpm	: 1165
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1235
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1300

---

**LOW IDLE**

control lever  
position degree : 68.0  
tolerance degree : + - 4.0

control lever  
position degree : 16.0  
tolerance degree : + - 4.0

**Testing:**

Rated speed rpm : 260  
rack travel mm : 4.70  
Tolerance mm : + - 0.20

Rated speed rpm : 200

CRT mm min. : > 5.90

Rated speed rpm : 330

---

**TORQUE CONTROL**

Rated speed rpm : 1125  
rack travel mm : 11.50  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 10.65  
Tolerance mm : + - 0.15

Rated speed rpm : 500  
rack travel mm : 9.45  
Tolerance mm : + - 0.15

---

**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 1125  
Pressure hPa : 2000  
rack travel mm : 11.50  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.00  
Tolerance mm : + - 0.20

Rated speed rpm : 1125

Pressure hPa : 1300  
rack travel mm : 4.10  
Tolerance mm : + - 0.20

Pressure hPa : 120  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : 2000  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 315.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance cm<sup>3</sup>/1000S. : 14.0

Aneroid pressure hPa : 2000  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0

---

**BREAKAWAY**

Rack travel in mm : 10.50  
Rated speed rpm : 1165  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 7.00  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 20.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 28.09.95  
Test oil : ISO 4113

Combination No. : 0 402 736 889

Injection pump  
Pump designation : PES6P120A120RS7390  
EP type number : 0 412 726 945

Governor  
Governor design. : RQV350...1100PA1244K  
Governor no. : 0 421 815 477

Cust. part No. : 3282739

---

Customer-spec. information  
Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 179.0

---

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity  
min. L/h : 90  
Tolerance L/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 2.90  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.50

## Start of delivery blocking

\*NW after s.o.d. : 10.50  
Tolerance : + - 0.50  
Check  
tolerance °NW : + - 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.00

Tolerance mm : + - 0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 173.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Speed  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 350  
 Rack travel in mm : 4.60  
 Tolerance mm : + - 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 18.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
 Speed  
 Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.93  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1159  
 guide sleeve travel mm : 10.27  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 710  
 guide sleeve travel mm : 5.79  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 420  
 guide sleeve travel mm : 4.28  
 Tolerance mm : + - 0.25

Rated speed rpm : 1380  
 guide sleeve travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1195  
 Rack travel in mm : 12.00  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 173.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Speed  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever position degree : 68.0  
 tolerance degree : + - 4.0  
 control lever position degree : 122.0  
 tolerance degree : + - 4.0  
 rack travel mm : 12.00  
 Rated speed rpm : 1145  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1230  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : + - 4.0

control lever  
position degree : 20.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.60  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 7.50

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.00  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 13.15  
Tolerance mm : + - 0.10

Rated speed rpm : 500  
rack travel mm : 12.25  
Tolerance mm : + - 0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 700  
Pressure hPa : 1500  
rack travel mm : 13.20  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 700  
rack travel mm : 10.20  
Tolerance mm : + - 0.20

Rated speed rpm : 700

Pressure hPa : 140  
rack travel mm : 11.10  
Tolerance mm : + - 0.20

Pressure hPa : 300  
rack travel mm : 12.60  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 290  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 171.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 109.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 255.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 20.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.60  
Tolerance mm : + - 0.30  
Det. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 27.09.95  
Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump  
Pump designation : PES6P120A320RS7359  
EP type number : 0 412 726 925

Governor  
Governor design. : RQ275/1050PA999-7  
Governor no. : 0 421 801 799

Cust. part No. : CCEP 5153 66-224

## Customer-spec. information

Customer : RVI  
Motor : MIHR062045 A41  
Power KW : 185.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.70  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.25  
Tolerance mm : + 0.75

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 600

Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 191.0

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance  
cm³/1000s. : + 4.0

Spreed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 275  
 \_\_\_\_\_  
 Rack travel in mm : -5.70  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 34.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
 guide sleeve  
 travel mm : 1.75  
 Tolerance mm : +- 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1145  
 guide sleeve  
 travel mm : 6.55  
 Tolerance mm : +- 0.15  
 \_\_\_\_\_  
 Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : +- 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 594  
 guide sleeve  
 travel mm : 5.11  
 Tolerance mm : +- 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 720  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : +- 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 1380  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 \_\_\_\_\_  
 Rack travel in mm : 20.00  
 Tolerance mm : +- 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 191.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 274.0  
 tolerance degree : +- 4.0  
 \_\_\_\_\_  
 rack travel mm : -1.00  
 Rated speed rpm : 1138  
 Tolerance 1/min : +- 5  
 \_\_\_\_\_  
 rack travel mm : -8.70  
 Rated speed rpm : 1265  
 Tolerance 1/min : +- 15  
 \_\_\_\_\_  
 rack travel mm : -12.20  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1375

##### LOW IDLE

control lever  
 position degree : 255.0  
 tolerance degree : +- 4.0

##### Testing:

Rated speed rpm : 275  
 rack travel mm : -5.70  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 585  
 Tolerance 1/min : + - 20  
  
 Rated speed rpm : 175  
  
 CRT mm min. : > -3.80

#### TORQUE CONTROL

Rated speed rpm : 600  
 Tolerance mm : + - 0.05  
  
 Rated speed rpm : 1050  
 Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
 Pressure hPa : 1000

#### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : -1.10  
 Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 140  
 rack travel mm : -0.66  
 Tolerance mm : + - 0.15

Pressure hPa : 200  
 rack travel mm : -0.25  
 Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 195  
 Check speed 1/min : < 215

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1000  
 Rated speed rpm : 1050  
 Del. quantity  
 cm3/1000 strokes : 198.0

Tolerance  
 cm3/1000 strokes : + - 3.0  
 Check tolerance  
 cm3/1000S. : + - 6.0

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 500  
 Del. quantity  
 cm3/1000 strokes : 156.0  
 Tolerance  
 cm3/1000 strokes : + - 1.0  
 Check tolerance  
 cm3/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
 Rated speed rpm : 1138  
 Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

rack travel mm : 20.25  
 Tolerance mm : + - 0.75  
 Del. quantity  
 cm3/1000 strokes : 145.0  
 Tolerance  
 cm3/1000 strokes : + - 15.0  
 Check tolerance  
 cm3/1000S. : + - 19.0

#### LOW IDLE

Rated speed rpm : 275  
 rack travel mm : -5.70  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm3/1000 strokes : 34.0  
 Tolerance  
 cm3/1000 strokes : + - 2.0  
 Check tolerance  
 cm3/1000S. : + - 5.0  
 Spread  
 Tolerance  
 cm3/1000 strokes : 8.0  
 Check tolerance  
 cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 804

Injection pump  
Pump designation : PE6P120A320RS3339  
EP type number : 0 411 826 812

Governor  
Governor design. : RSV325...1400POA590  
Governor no. : 0 421 833 450

Cust. part No. : 3825199-P06 v. 9/95

## Customer-spec. information

Customer : PENTA  
Motor : TAMD63 L  
Power KW : 228.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 6.40  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 8.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.55  
Tolerance mm : +- 0.25

governor spring  
pre-tension  
click setting x : 5.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000

Aneroid pressure  
hPa : 2000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 141.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
position degree : 68.0  
tolerance degree : +- 4.0

control lever  
position degree : 118.0  
tolerance degree : +- 4.0

rack travel mm : 7.90  
Rated speed rpm : 1470  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1530  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1630

##### LOW IDLE

control lever  
position degree : 82.0  
tolerance degree : +- 4.0

control lever  
position degree : 32.0  
tolerance degree : +- 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 3.30

##### Testing:

Rated speed rpm : 325  
rack travel mm : 3.80  
Tolerance mm : +- 0.20

rack travel mm : 2.00  
Rated speed rpm : 460  
Tolerance 1/min : +- 30

##### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 8.90  
Tolerance mm : +- 0.05

Rated speed rpm : 1400  
rack travel mm : 8.90  
Tolerance mm : +- 0.10

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 2000  
rack travel mm : 8.90  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 6.50  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 850  
rack travel mm : 2.00  
Tolerance mm : + - 0.15

Pressure hPa : 490  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 128.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 93.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

**BREAKAWAY**

Rack travel in mm : 7.90  
Rated speed rpm : 1470

Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 12.00  
Tolerance mm : + - 0.25

---

**LOW IDLE**

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 809

Injection pump  
Pump designation : PE6P120A320RS3355  
EP type number : 0 411 826 814

Governor  
Governor design. : RSV325...1200P1A605  
Governor no. : 0 421 833 487

Cust. part No. : 3825834 P03 v. 9/95

## Customer-spec. information

Customer : PENTA  
Motor : TWD731ME  
Power KW : 175.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 3.45  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 7.40  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30

Check  
tolerance \*NW : + - 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 10.60  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 126.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

---

Rated speed rpm : 325

---

Rack travel in mm : 4.40  
 Tolerance mm : + - 0.20

---

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 24.0

---

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 2.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0

---

Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.85  
 Tolerance mm : + - 0.55

governor spring  
 pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200

Aneroid pressure

hPa : 1500

Del. quantity

cm<sup>3</sup>/1000 strokes : 126.0

Tolerance

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 4.0

Spred

Tolerance

cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance

cm<sup>3</sup>/1000S. : 11.0

##### RATED SPEED

control lever  
 position degree : 71.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 121.0  
 tolerance degree : + - 4.0

rack travel mm : 9.60  
 Rated speed rpm : 1235  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1280  
 Tolerance 1/min : + - 15

rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 1400

##### LOW IDLE

control lever  
 position degree : 81.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 31.0  
 tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 3.90

Testing:

Rated speed rpm : 325  
 rack travel mm : 4.40  
 Tolerance mm : + - 0.10

rack travel mm : 2.00  
 Rated speed rpm : 390  
 Tolerance 1/min : + - 30

##### TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 10.60  
 Tolerance mm : + - 0.05

Rated speed rpm : 700

rack travel mm : 10.60  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 10.60  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.80  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 850  
rack travel mm : 2.50  
Tolerance mm : + - 0.15

Pressure hPa : 260  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 9.60  
Rated speed rpm : 1235  
Tolerance 1/min : + - 5

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.40  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 810

Injection pump  
Pump designation : PE6P120A320RS3359  
EP type number : 0 411 826 815

Governor  
Governor design. : RSV325...1200P1A615  
Governor no. : 0 421 833 503

Cust. part No. : 3825515 P01 v. 5/95

## Customer-spec. information

Customer : PENTA  
Motor : TD 730ME  
Power KW : 150.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.35  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 9.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.10  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 130.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

Rated speed rpm : 325

Rack travel in mm : 4.40  
Tolerance mm : + - 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.85  
Tolerance mm : + - 0.55

governor spring  
pre-tension  
click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure

hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

##### RATED SPEED

control lever  
position degree : 71.0  
tolerance degree : + - 4.0

control lever  
position degree : 118.0  
tolerance degree : + - 4.0

rack travel mm : 10.10  
Rated speed rpm : 1235  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1280  
Tolerance 1/min : + - 15

rack travel mm : 0.85  
Tolerance mm : + - 0.55  
Rated speed rpm : 1400

##### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : + - 4.0

control lever  
position degree : 31.0  
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 3.90

Testing:

Rated speed rpm : 325  
rack travel mm : 4.40  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : + - 30

##### TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 11.10  
Tolerance mm : + - 0.05

Rated speed rpm : 700

rack travel mm : 11.10  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.00  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.80  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 770  
rack travel mm : 1.85  
Tolerance mm : + - 0.15

Pressure hPa : 390  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1235  
Tolerance 1/min : + - 5

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.40  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.10.95  
Test oil : ISO 4113

Combination No. : 0 402 048 705

Injection pump  
Pump designation : PES8P120A320RS3199  
EP type number : 0 412 028 705

Governor  
Governor design. : RQV275...1050PA665  
Governor no. : 0 421 813 370

Cust. part No. :

## Customer-spec. information

Customer : RVI  
Motor : MIVR083530  
Power KW : 320.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 8- 4- 2- 7  
: - 3- 6- 5

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance  
Check  
tolerance °NW : + 0.30

Start of delivery mark

°NW after s.o.d. : 13.00

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Del. quantity  
cm<sup>3</sup>/1000 strokes : 203.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -7.50  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance

cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance

cm<sup>3</sup>/1000S. : + 6.0  
Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance

cm<sup>3</sup>/1000S. : 12.0

Rack travel in mm : 10.45  
Tolerance mm : + 1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050

Aneroid pressure  
hPa : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 203.0  
Tolerance

cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance

cm<sup>3</sup>/1000S. : + 4.0  
Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance

cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 0.89  
Tolerance mm : + 0.20

Rated speed rpm : 1135  
guide sleeve  
travel mm : 8.32  
Tolerance mm : + 0.15

Rated speed rpm : 781  
guide sleeve  
travel mm : 5.68  
Tolerance mm : + 0.25

Rated speed rpm : 480  
guide sleeve  
travel mm : 3.60  
Tolerance mm : + 0.25

Rated speed rpm : 1430  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1250

control lever  
position degree : 65.0  
tolerance degree : + 4.0

control lever  
position degree : 300.0  
tolerance degree : + 4.0

rack travel mm : -1.00  
Rated speed rpm : 1120  
Tolerance 1/min : + 5

rack travel mm : -7.45  
Rated speed rpm : 1225  
Tolerance 1/min : + 15

rack travel mm : -10.95  
Tolerance mm : + 0.50  
Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 245.0  
tolerance degree : + 4.0

control lever  
position degree : 10.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 200  
CRT mm max. : < -5.80  
Rated speed rpm : 343

#### TORQUE CONTROL

Rated speed rpm : 1050  
Rated speed rpm : 650

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 700

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -2.60  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 360  
rack travel mm : -1.90  
Tolerance mm : + - 0.10

Pressure hPa : 420  
rack travel mm : -0.75  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 195  
Check speed 1/min : < 215

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 192.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 111.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1120  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 175.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

#### LOW IDLE

Rated speed rpm : 275  
rack travel mm : -7.50  
Tolerance mm : + - 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.10.95  
Test oil : ISO 4113

Combination No. : 0 402 646 644

Injection pump  
Pump designation : PE6P120A320RS7319  
EP type number : 0 412 626 914

Governor  
Governor design. : RQV300...1400PA1124  
Governor no. : 0 421 814 086

Cust. part No. : 866633 P03 5.10.95

## Customer-spec. information

Customer : PENTA  
Motor : TAMD 63  
Power KW : 265.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance check  
tolerance °NW : + 0.30  
: + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 241.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 11.0
Del. quantity cm <sup>3</sup> /1000 strokes	: 23.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 5.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL	
Rated speed rpm	: 300
guide sleeve travel mm	: 1.24
Tolerance mm	: + 0.25
Rated speed rpm	: 1456
guide sleeve travel mm	: 7.69
Tolerance mm	: + 0.25
Rated speed rpm	: 1170
guide sleeve travel mm	: 5.67
Tolerance mm	: + 0.25
Rated speed rpm	: 448
guide sleeve travel mm	: 2.83
Tolerance mm	: + 0.25
Rated speed rpm	: 498
guide sleeve travel mm	: 3.20
Tolerance mm	: + 0.25
Rated speed rpm	: 690
guide sleeve travel mm	: 3.68
Tolerance mm	: + 0.25
Rated speed rpm	: 1638

guide sleeve travel mm	: 10.00
Tolerance mm	: + 0.25
Rated speed rpm	: 1760
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

---

#### GUIDE SLEEVE POSITION

Rated speed rpm	: 1640
Rack travel in mm	: 9.00
Tolerance mm	: + 3.00

---

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure hPa	: 2000
Del. quantity cm <sup>3</sup> /1000 strokes	: 241.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 11.0

---

#### RATED SPEED

control lever position degree	: 54.0
tolerance degree	: + 4.0
control lever position degree	: 118.0
tolerance degree	: + 4.0
rack travel mm	: 12.30
Rated speed rpm	: 1440
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1570
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1650

---

#### LOW IDLE

control lever  
position degree : 81.0  
tolerance degree : + - 4.0

control lever  
position degree : 17.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.40  
Tolerance mm : + - 0.20

Rated speed rpm : 200

CRT mm min. : > 6.80

Rated speed rpm : 350

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.90  
Tolerance mm : + - 0.05

Rated speed rpm : 1400  
rack travel mm : 12.90  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 2000  
rack travel mm : 13.30  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.20  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 1400  
rack travel mm : 4.70  
Tolerance mm : + - 0.20

Pressure hPa : 430  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1440  
Tolerance 1/min : + - 5

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.10.95  
Test oil : ISO 4113

Combination No. : 0 402 648 931B

Injection pump  
Pump designation : PE8P120A320LS7847-3  
EP type number : 0 412 628 886

Governor  
Governor design. : RQ300/950PA1032-7  
Governor no. : 0 421 801 715

Cust. part No. : 0230741302

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM402 LA  
Power KW : 280.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.55  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance check  
tolerance °NW : + - 0.30

## Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 239.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 300  
 \_\_\_\_\_  
 Rack travel in mm : 5.70  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.74  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 1005  
 guide sleeve  
 travel mm : 6.84  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 950  
 guide sleeve  
 travel mm : 6.50  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 736  
 guide sleeve  
 travel mm : 6.13  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 415  
 guide sleeve  
 travel mm : 3.82  
 Tolerance mm : + - 0.10

\_\_\_\_\_  
 Rated speed rpm : 550  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 1160  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + - 0.50  
 \_\_\_\_\_  
 Rated speed rpm : 833  
 guide sleeve  
 travel mm : 6.38  
 Tolerance mm : + - 0.10

---

##### GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 \_\_\_\_\_  
 Rack travel in mm : 20.00  
 Tolerance mm : + - 0.80

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 239.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

##### RATED SPEED

control lever  
 position degree : 97.0  
 tolerance degree : + - 4.0  
 \_\_\_\_\_  
 rack travel mm : 13.15  
 \_\_\_\_\_  
 Rated speed rpm : 998  
 Tolerance 1/min : + - 8  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 \_\_\_\_\_  
 Rated speed rpm : 1085  
 Tolerance 1/min : + - 15  
 \_\_\_\_\_  
 rack travel mm : 0.75  
 Tolerance mm : + - 0.75

Rated speed rpm : 1350

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : +- 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.50  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 420  
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 7.50

#### TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 14.80  
Tolerance mm : +- 0.05

Rated speed rpm : 950  
rack travel mm : 14.15  
Tolerance mm : +- 0.10

Rated speed rpm : 860  
rack travel mm : 14.35  
Tolerance mm : +- 0.10

Rated speed rpm : 820  
rack travel mm : 14.65  
Tolerance mm : +- 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1200  
rack travel mm : 14.80  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.60

Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 300  
rack travel mm : 11.90  
Tolerance mm : +- 0.15

Pressure hPa : 450  
rack travel mm : 12.90  
Tolerance mm : +- 0.10

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Del. quantity  
cm3/1000 strokes : 216.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm3/1000 strokes : 107.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 4.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

#### BREAKAWAY

Rack travel in mm : 13.15  
Rated speed rpm : 998  
Tolerance 1/min : +- 8

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.60

Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.70  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.10.95  
Test oil : ISO 4113

Combination No. : 0 402 648 931C

Injection pump  
Pump designation : PE8P120A320LS7847-2  
EP type number : 0 412 628 885

Governor  
Governor design. : RQ300/950PA1032-7  
Governor no. : 0 421 801 715

Cust. part No. : 0230741302

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM402 LA  
Power KW : 280.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance  
Check  
tolerance °NW : + 0.30

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 239.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 300  
 \_\_\_\_\_  
 Rack travel in mm : 5.70  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.74  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 1005  
 guide sleeve  
 travel mm : 6.84  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 950  
 guide sleeve  
 travel mm : 6.50  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rom : 736  
 guide sleeve  
 travel mm : 6.13  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 415  
 guide sleeve  
 travel mm : 3.82  
 Tolerance mm : + - 0.10

Rated speed rpm : 550  
 guide sleeve  
 travel mm : 6.00  
 Tolerance mm : + - 0.10  
 \_\_\_\_\_  
 Rated speed rpm : 1160  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + - 0.50  
 \_\_\_\_\_  
 Rated speed rpm : 833  
 guide sleeve  
 travel mm : 6.38  
 Tolerance mm : + - 0.10

##### GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 \_\_\_\_\_  
 Rack travel in mm : 20.00  
 Tolerance mm : + - 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 239.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 97.0  
 tolerance degree : + - 4.0  
 \_\_\_\_\_  
 rack travel mm : 13.15  
 Rated speed rpm : 998  
 Tolerance 1/min : + - 8  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1085  
 Tolerance 1/min : + - 15  
 \_\_\_\_\_  
 rack travel mm : 0.75  
 Tolerance mm : + - 0.75

Rated speed rpm : 1350

#### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 5.50  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 420  
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 7.50

#### TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 14.80  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 14.15  
Tolerance mm : + - 0.10

Rated speed rpm : 860  
rack travel mm : 14.35  
Tolerance mm : + - 0.10

Rated speed rpm : 820  
rack travel mm : 14.65  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1200  
rack travel mm : 14.80  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.60

Tolerance mm : + - 0.20

Rated speed rpm : 400

Pressure hPa : 300  
rack travel mm : 11.90  
Tolerance mm : + - 0.15

Pressure hPa : 450  
rack travel mm : 12.90  
Tolerance mm : + - 0.10

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### BREAKAWAY

Rack travel in mm : 13.15  
Rated speed rpm : 998  
Tolerance 1/min : + - 8

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.60

Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.70  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 10.10.95  
Test oil : ISO 4113

Combination No. : 0 402 648 933

Injection pump  
Pump designation : PE8P120A320LS7847-3  
EP type number : 0 412 628 886

Governor  
Governor design. : RQ300/950PA1031-14  
Governor no. : 0 421 801 720

Cust. part No. : 0230742702

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM402 LA  
Power KW : 280.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 239.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 5.70  
 Tolerance mm : + - 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.62  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 1009  
 guide sleeve travel mm : 6.84  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 950  
 guide sleeve travel mm : 6.50  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 739  
 guide sleeve travel mm : 6.13  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 443  
 guide sleeve travel mm : 4.35  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 550

guide sleeve travel mm : 6.00  
 Tolerance mm : + - 0.10  
 Rated speed rpm : 1160  
 guide sleeve travel mm : 11.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 835  
 guide sleeve travel mm : 6.38  
 Tolerance mm : + - 0.10

##### GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 Rack travel in mm : 20.00  
 Tolerance mm : + - 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 239.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever position degree : 97.0  
 tolerance degree : + - 4.0  
 rack travel mm : 13.15  
 Rated speed rpm : 998  
 Tolerance 1/min : + - 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1085  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.75  
 Tolerance mm : + - 0.75  
 Rated speed rpm : 1350

---

#### LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 3.50  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 350  
Tolerance 1/min : + - 20

Rated speed rpm : 200

CRT mm min. : > 5.50

---

#### TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 14.80  
Tolerance mm : + - 0.05

Rated speed rpm : 950  
rack travel mm : 14.15  
Tolerance mm : + - 0.10

Rated speed rpm : 860  
rack travel mm : 14.35  
Tolerance mm : + - 0.10

Rated speed rpm : 820  
rack travel mm : 14.65  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1200  
rack travel mm : 14.80  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.60  
Tolerance mm : + - 0.20

Rated speed rpm : 400  
Pressure hPa : 300  
rack travel mm : 11.90  
Tolerance mm : + - 0.15

Pressure hPa : 450  
rack travel mm : 12.90  
Tolerance mm : + - 0.10

---

#### START CUT-OUT

Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 216.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 13.15  
Rated speed rpm : 998  
Tolerance 1/min : + - 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.70  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 09.10.95  
Test oil : ISO 4113

Combination No. : 0 402 744 801

Injection pump  
Pump designation : PES4P120A320RS7380  
EP type number : 0 412 724 802

Governor  
Governor design. : RQV275...1200PA1232K  
Governor no. : 0 421 815 469

Cust. part No. : CCEP 5149 66-237

## Customer-spec. information

Customer : RVI  
Motor : MIDR 04-02-26 B4  
Power KW : 110.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity  
min. l/h : 95  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.00  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 236.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread

Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 325  
 Rack travel in mm : -6.10  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 40.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
 guide sleeve  
 travel mm : 1.57  
 Tolerance mm : +- 0.25

Rated speed rpm : 1381  
 guide sleeve  
 travel mm : 10.37  
 Tolerance mm : +- 0.25

Rated speed rpm : 940  
 guide sleeve  
 travel mm : 6.87  
 Tolerance mm : +- 0.25

Rated speed rpm : 390  
 guide sleeve  
 travel mm : 2.39  
 Tolerance mm : +- 0.25

Rated speed rpm : 440  
 guide sleeve  
 travel mm : 2.90  
 Tolerance mm : +- 0.25

Rated speed rpm : 560  
 guide sleeve  
 travel mm : 4.01  
 Tolerance mm : +- 0.25

Rated speed rpm : 1650

guide sleeve  
 travel mm : 13.50  
 Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 11.10  
 Tolerance mm : +- 1.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 236.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever  
 position degree : 302.0  
 tolerance degree : +- 4.0  
 rack travel mm : -1.00  
 Rated speed rpm : 1270  
 Tolerance 1/min : +- 5  
 rack travel mm : -8.20  
 Rated speed rpm : 1465  
 Tolerance 1/min : +- 15  
 rack travel mm : -11.70  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1550

##### LOW IDLE

control lever  
 position degree : 253.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm	:	325
rack travel mm	:	-6.10
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	200
CRT mm min.	:	< -4.60
Rated speed rpm	:	390

#### TORQUE CONTROL

Rated speed rpm	:	1200
Rated speed rpm	:	700
rack travel mm	:	-1.15
Tolerance mm	:	+ - 0.10
Rated speed rpm	:	350
rack travel mm	:	-2.90
Tolerance mm	:	+ - 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm	:	1200
Pressure hPa	:	1200

#### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	-4.20
Tolerance mm	:	+ - 0.20

Rated speed rpm	:	1200
-----------------	---	------

Pressure hPa	:	320
rack travel mm	:	-3.60
Tolerance mm	:	+ - 0.20

Pressure hPa	:	520
rack travel mm	:	-2.50
Tolerance mm	:	+ - 0.05

#### START CUT-OUT

Rated speed rpm	:	< 275
Check speed 1/min	:	< 285

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa	:	1200
Rated speed rpm	:	700
Del. quantity cm <sup>3</sup> /1000 strokes	:	237.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ - 3.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 6.0

Aneroid pressure hPa	:	-
Rated speed rpm	:	500
Del. quantity cm <sup>3</sup> /1000 strokes	:	155.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ - 1.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 4.0

#### BREAKAWAY

Rack travel in mm	:	-1.00
Rated speed rpm	:	1270
Tolerance 1/min	:	+ - 5

#### STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity cm <sup>3</sup> /1000 strokes	:	100.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ - 15.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 19.0

#### LOW IDLE

Rated speed rpm	:	325
rack travel mm	:	-6.10
Tolerance mm	:	+ - 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	:	40.0
Tolerance cm <sup>3</sup> /1000 strokes	:	+ - 2.0
Check tolerance cm <sup>3</sup> /1000S.	:	+ - 6.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.10.95  
Test oil : ISO 4113

Combination No. : 0 402 746 994

Injection pump  
Pump designation : PES6P120A320RS7344  
EP type number : 0 412 726 914

Governor  
Governor design. : RQV275...1000PA1161  
Governor no. : 0 421 814 100

Cust. part No. : CCEP 5143A 66-231

## Customer-spec. information

Customer : RVI  
Motor : MIDR 062045 E/41  
Power KW : 249.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.50  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 282.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : -7.50  
 Tolerance mm : +- 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 32.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 5.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.66  
 Tolerance mm : +- 0.25

Rated speed rpm : 1086  
 guide sleeve travel mm : 8.09  
 Tolerance mm : +- 0.25

Rated speed rpm : 793  
 guide sleeve travel mm : 6.00  
 Tolerance mm : +- 0.25

Rated speed rpm : 343  
 guide sleeve travel mm : 2.33  
 Tolerance mm : +- 0.25

Rated speed rpm : 393  
 guide sleeve travel mm : 2.95  
 Tolerance mm : +- 0.25

Rated speed rpm : 500  
 guide sleeve travel mm : 3.72  
 Tolerance mm : +- 0.25

Rated speed rpm : 1410  
 guide sleeve travel mm : 11.50

Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1235

Rack travel in mm : 11.70  
 Tolerance mm : +- 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600

Aneroid pressure hPa : 1000

Del. quantity cm<sup>3</sup>/1000 strokes : 282.0

Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance cm<sup>3</sup>/1000S. : +- 4.0

Spread

Tolerance cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### RATED SPEED

control lever position degree : 120.0  
 tolerance degree : +- 4.0

rack travel mm : -1.00  
 Rated speed rpm : 1080  
 Tolerance 1/min : +- 5

rack travel mm : -8.60  
 Rated speed rpm : 1215  
 Tolerance 1/min : +- 15

rack travel mm : -12.10  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1300

##### LOW IDLE

control lever position degree : 65.0  
 tolerance degree : +- 4.0

##### Testing:

Rated speed rpm : 200

CRT mm max. : < -5.50

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 600

Rated speed rpm : 1000

Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE

#### COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500

Pressure hPa : 1000

#### MEASUREMENT

Pressure hPa : -

Rated speed rpm : 500

rack travel mm : -3.40

Tolerance mm : + - 0.30

Rated speed rpm : 500

Pressure hPa : 320

rack travel mm : -2.65

Tolerance mm : + - 0.15

Pressure hPa : 640

rack travel mm : -0.70

Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 225

Check speed 1/min : < 245

#### FUEL DELIVERY CHARACTERISTICS

##### Aneroid pressure

hPa : 1000

Rated speed rpm : 1000

Del. quantity

cm<sup>3</sup>/1000 strokes : 283.0

Tolerance

cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 6.0

#### Aneroid pressure

hPa : -

Rated speed rpm : 500

Del. quantity

cm<sup>3</sup>/1000 strokes : 122.0

Tolerance

cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : -1.00

Rated speed rpm : 1080

Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.25

Tolerance mm : + - 0.75

Del. quantity

cm<sup>3</sup>/1000 strokes : 150.0

Tolerance

cm<sup>3</sup>/1000 strokes : + - 15.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 19.0

#### LOW IDLE

Rated speed rpm : 300

rack travel mm : -7.50

Tolerance mm : + - 0.20

Del. quantity

cm<sup>3</sup>/1000 strokes : 32.0

Tolerance

cm<sup>3</sup>/1000 strokes : + - 2.0

Check tolerance

cm<sup>3</sup>/1000S. : + - 5.0

Spread

Tolerance

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance

cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.10.95  
Test oil : ISO 4113

Combination No. : 0 402 946 018

Injection pump  
Pump designation : PE6P120A720RS8041  
EP type number : 0 412 926 027

Governor  
Governor design. : RQV250...950PA1253  
Governor no. : 0 421 814 166

Cust. part No. : 1383215

## Customer-spec. information

Customer : SCANIA  
Motor : DSC 11.75

## TEST BENCH REQUIREMENTS

Inlet Line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.40  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.20  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
Rated speed rpm	: 250
Rack travel in mm	: 5.60
Tolerance mm	: + 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 16.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve travel mm	: 1.31
Tolerance mm	: + 0.20
Rated speed rpm	: 1006
guide sleeve travel mm	: 7.25
Tolerance mm	: + 0.15
Rated speed rpm	: 673
guide sleeve travel mm	: 4.96
Tolerance mm	: + 0.25
Rated speed rpm	: 420
guide sleeve travel mm	: 3.37
Tolerance mm	: + 0.25
Rated speed rpm	: 1390
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1235
Rack travel in mm	: 10.20
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: 1500
Del. quantity cm <sup>3</sup> /1000 strokes	: 261.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

##### RATED SPEED

control lever position degree	: 59.0
tolerance degree	: + 4.0
control lever position degree	: 112.0
tolerance degree	: + 4.0
rack travel mm	: 10.90
Rated speed rpm	: 995
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1130
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1200

##### LOW IDLE

control lever position degree	: 66.0
tolerance degree	: + 4.0

control lever  
position degree : 12.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 150

CRT mm min. : > 6.15

Rated speed rpm : 300

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 950  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.20  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 500

Pressure hPa : 290  
rack travel mm : 9.00  
Tolerance mm :  $\pm$  0.15

Pressure hPa : 540  
rack travel mm : 10.40  
Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm : < 170  
Check speed 1/min : < 190

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 950  
Del. quantity cm<sup>3</sup>/1000 strokes : 245.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 995  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50

#### LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.30  
Del. quantity cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.10.95  
Test oil : ISO 4113

Combination No. : 0 402 946 019

Injection pump  
Pump designation : PE6P120A720RS8041  
EP type number : 0 412 926 027

Governor  
Governor design. : RQV250...950PA1253  
: -1  
Governor no. : 0 421 814 167

Cust. part No. : 1383216

## Customer-spec. information

Customer : SCANIA  
Motor : DSC 11.74

## TEST BENCH REQUIREMENTS

Inlet Line : EHAB

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 104

Opening pressure  
bar : 251.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

Start-of-delivery setting with ROBO diaphragm.

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.40  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.35  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 227.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0
Rated speed rpm	: 250
Rack travel in mm	: 5.60
Tolerance mm	: + 0.30
Del. quantity cm <sup>3</sup> /1000 strokes	: 16.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance cm <sup>3</sup> /1000S.	: + 6.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance cm <sup>3</sup> /1000S.	: 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve travel mm	: 1.31
Tolerance mm	: + 0.20
Rated speed rpm	: 1005
guide sleeve travel mm	: 7.25
Tolerance mm	: + 0.15
Rated speed rpm	: 673
guide sleeve travel mm	: 4.96
Tolerance mm	: + 0.25
Rated speed rpm	: 420
guide sleeve travel mm	: 3.37
Tolerance mm	: + 0.25
Rated speed rpm	: 1390
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1250
Rack travel in mm	: 9.35
Tolerance mm	: + 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 700
Aneroid pressure hPa	: 1500
Del. quantity cm <sup>3</sup> /1000 strokes	: 227.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

##### RATED SPEED

control lever position degree	: 58.0
tolerance degree	: + 4.0
control lever position degree	: 111.0
tolerance degree	: + 4.0
rack travel mm	: 10.90
Rated speed rpm	: 995
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1190
Tolerance 1/min	: + 15
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1200

##### LOW IDLE

control lever position degree	: 66.0
tolerance degree	: + 4.0

control lever  
position degree : 12.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 5.60

Tolerance mm : + 0.10

Rated speed rpm : 150

CRT mm min. : > 6.15

Rated speed rpm : 300

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 10.35

Tolerance mm : + 0.05

Rated speed rpm : 950  
rack travel mm : 10.35

Tolerance mm : + 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 10.35

Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.20

Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 260  
rack travel mm : 8.80

Tolerance mm : + 0.15

Pressure hPa : 430  
rack travel mm : 9.80

Tolerance mm : + 0.05

#### START CUT-OUT

Rated speed rpm : < 170  
Check  
speed 1/min : < 190

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500

Rated speed rpm : 950

Del. quantity

cm<sup>3</sup>/1000 strokes : 216.0

Tolerance

cm<sup>3</sup>/1000 strokes : + 4.0

Check tolerance

cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -

Rated speed rpm : 500

Del. quantity

cm<sup>3</sup>/1000 strokes : 153.0

Tolerance

cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance

cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 10.90

Rated speed rpm : 995

Tolerance 1/min : + 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

rack travel mm : 20.50

Tolerance mm : + 0.50

#### LOW IDLE

Rated speed rpm : 250

rack travel mm : 5.60

Tolerance mm : + 0.30

Del. quantity

cm<sup>3</sup>/1000 strokes : 16.0

Tolerance

cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance

cm<sup>3</sup>/1000S. : + 6.0

Spread

Tolerance

cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.09.95  
Test oil : ISO 4113

Combination No. : 0 403 476 048

Injection pump  
Pump designation : FES6MW100/320RS1135  
EP type number : 0 413 406 127

Governor  
Governor design. : RSV325...1250MW2A308  
: -3  
Governor no. : 0 420 085 057

Cust. part No. :

---

Customer-spec. information  
Customer : VOLVO-PENTA  
Motor : TD 61 AW  
Power KW : 125.0

---

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 800

Rack travel in mm : 11.05  
Tolerance mm : + 0.05

Del. quantity  
cm3/1000 strokes : 86.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000s. : + 3.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 325

Rack travel in mm : 8.75  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 4.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 800  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

##### RATED SPEED

rack travel mm : 10.00  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

rack travel mm : 1.00  
Tolerance mm : +- 0.70  
Rated speed rpm : 1450

##### LOW IDLE

##### Testing:

Rated speed rpm : 325  
rack travel mm : 8.75  
Tolerance mm : +- 0.05

##### TORQUE CONTROL

Rated speed rpm : 800  
rack travel mm : 11.05  
Tolerance mm : +- 0.05

Rated speed rpm : 1000  
rack travel mm : 11.05  
Tolerance mm : +- 0.10

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

##### BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

##### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : +- 1.00

Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.75  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 19.07.95  
Test oil : ISO 4113

Combination No. : 0 401 408 050

Injection pump  
Pump designation : PE8R120/500/6RS1509  
EP type number : 0 401 408 050

Governor  
Governor design. :  
Governor no. :

Cust. part No. : 1 227 6686

## Customer-spec. information

Customer : MWM  
Motor : TBD 616-V16

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : 3.0  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.95  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 21.00  
Tolerance mm : + 0.50

Firing order : 1-2-5-6- 3- 4  
: - 7- 8

Phasing : 0-30-45-75-270-300  
: -315-345

Tolerance  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.40  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 387.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 300

Rack travel in mm : 5.00

Tolerance mm : + - 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 387.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

TORQUE CONTROL

Rated speed rpm : 1150

rack travel mm : 14.40

Tolerance mm : + - 0.05

---

LOW IDLE

Rated speed rpm : 300

rack travel mm : 5.00

Tolerance mm : + - 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.04.95  
Test oil : ISO 4113

Combination No. : 0 402 670 810

Injection pump  
Pump designation : PE12P120A520/5RS7375  
EP type number : 0 412 620 844

Governor  
Governor design. : RSV300...900POA361  
Governor no. : 0 421 829 110

Cust. part No. : 1 2277 426

## Customer-spec. information

Customer : MWM  
Motor : TBD 616-V12  
Power KW : 648.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.60  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.50

Firing order : 1- 2- 9-10- 5- 6  
: - 11- 12- 3- 4  
: - 7- 8

Phasing : 0-30-60-90-120-150  
: -180-210-240-270  
: -300-330

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 325.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : 4.30  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 3.25

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 325.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 109.0  
tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 1.00  
Tolerance mm : + 0.70  
Rated speed rpm : 950

Rated speed rpm : 750  
rack travel mm : 12.30

Rated speed rpm : 784  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + 0.70

Rated speed rpm : 751  
rack travel mm : 12.30

Rated speed rpm : 785  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + 0.70

Rated speed rpm : 752  
rack travel mm : 12.30

Rated speed rpm : 786  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + 0.70

Rated speed rpm : 753  
rack travel mm : 12.30

Rated speed rpm : 787  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + 0.70

Rated speed rpm : 754  
rack travel mm : 12.30

Rated speed rpm : 788  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + - 0.70

Rated speed rpm : 755  
rack travel mm : 12.30

Rated speed rpm : 789  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + - 0.70

#### LOW IDLE

control lever  
position degree : 81.0  
tolerance degree : + - 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 3.80

#### Testing:

Rated speed rpm : 325  
rack travel mm : 4.30  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 360  
Tolerance 1/min : + - 30

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.30  
Tolerance mm : + - 0.05

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 350.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.30  
Tolerance mm : + - 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0  
Tolerance

cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance

cm<sup>3</sup>/1000S. : + - 6.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance

cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 27.06.95  
Test oil : ISO 4113

Combination No. : 0 402 678 828

Injection pump  
Pump designation : PE8P120A520/5RS7381  
EP type number : 0 412 628 907

Governor  
Governor design. : RSVU300...900POA363  
Governor no. : 0 421 829 111

Cust. part No. : 1 2277 434

## Customer-spec. information

Customer : MWM  
Motor : TBD 616  
Power KW : 432.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.60  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.50

Firing order : 1- 8- 5- 4- 7  
: - 2- 3- 6

Phasing : 0-30-90-120-180  
: -210-270-300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.30  
Tolerance mm : + 0.05

Det. quantity  
cm<sup>3</sup>/1000 strokes : 325.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 325

Rack travel in mm : 4.30  
Tolerance mm : + - 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 30.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 3.25

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 325.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

#### CONTROL LEVER

control lever  
position degree : 109.0

tolerance degree : + - 4.0

#### RATED SPEED

rack travel mm : 1.00  
Tolerance mm : + - 0.70  
Rated speed rpm : 950

Rated speed rpm : 750  
rack travel mm : 12.30

Rated speed rpm : 784  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + - 0.70

Rated speed rpm : 751  
rack travel mm : 12.30

Rated speed rpm : 785  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + - 0.70

Rated speed rpm : 752  
rack travel mm : 12.30

Rated speed rpm : 786  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + - 0.70

Rated speed rpm : 753  
rack travel mm : 12.30

Rated speed rpm : 787  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + - 0.70

Rated speed rpm : 754  
rack travel mm : 12.30

Rated speed rpm : 788  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + - 0.70

Rated speed rpm : 755  
rack travel mm : 12.30

Rated speed rpm : 789  
Tolerance 1/min : + 4  
rack travel mm : 4.00

rack travel mm : 1.00  
Tolerance mm : + 0.70

---

#### LOW IDLE

control lever  
position degree : 81.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 3.80

#### Testing:

Rated speed rpm : 325  
rack travel mm : 4.30  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 360  
Tolerance 1/min : + 30

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.30  
Tolerance mm : + 0.05

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 350.0  
Tolerance  
cm3/1000 strokes : + 20.0  
Check tolerance  
cm3/1000S. : + 24.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.30  
Tolerance mm : + 0.30  
Del. quantity  
cm3/1000 strokes : 30.0  
Tolerance  
cm3/1000 strokes : + 3.0  
Check tolerance  
cm3/1000S. : + 6.0  
Spreed  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.08.95  
Test oil : ISO 4113

Combination No. : 0 402 678 830

Injection pump  
Pump designation : PE8P120A520/5RS7386  
EP type number : 0 412 628 910

Governor  
Governor design. : RSVU325...1150POA358  
: -1  
Governor no. : 0 421 829 106

Cust. part No. : 12277649KY0120-17

## Customer-spec. information

Customer : MWM  
Motor : TBD 616 V16  
Power KW : 864.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x Length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.10

Firing order : 1- 2- 7- 8- 3- 4-  
: 5- 6

Phasing : 0-30-45-75-90-120  
: -315-345

Tolerance : + 0.30  
Check  
tolerance \*NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.40  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 38.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : -  
 Del. quantity cm<sup>3</sup>/1000 strokes : 262.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

#### CONTROL LEVER

control lever position degree : 123.0  
 tolerance degree : + 4.0

#### RATED SPEED

rack travel mm : 11.60

+ Rated speed rpm : 1193  
 Tolerance 1/min : + 5  
 + rack travel mm : 4.00  
 + Rated speed rpm : 1270  
 + Tolerance 1/min : + 15

+ rack travel mm : 0.85  
 + Tolerance mm : + 0.55  
 + Rated speed rpm : 1380  
 + rack travel mm : 4.00  
 + Rated speed rpm : 1285

---

#### LOW IDLE

control lever position degree : 84.0  
 tolerance degree : + 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 5.90

#### Testing:

Rated speed rpm : 300  
 rack travel mm : 6.40  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 460  
 Tolerance 1/min : + 30

---

#### TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 12.60  
 Tolerance mm : + 0.05

Rated speed rpm : 800  
 rack travel mm : 12.60  
 Tolerance mm : + 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 600  
 Pressure hPa : 1250  
 rack travel mm : 12.60  
 Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 8.50  
Tolerance mm : + - 0.20

Rated speed rpm : 600

Pressure hPa : 670  
rack travel mm : 11.40  
Tolerance mm : + - 0.20

Pressure hPa : 450  
rack travel mm : 9.60  
Tolerance mm : + - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 131.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1193  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : > 19.50

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.40  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.09.95  
Test oil : ISO 4113

Combination No. : 0 401 416 050

Injection pump  
Pump designation : PE6R130/700RS1511  
EP type number : 0 411 436 003

Governor  
Governor design. :  
Governor no. :

Cust. part No. : 3825418 P03

## Customer-spec. information

Customer : PENTA  
Motor : TAD 1631 G  
Power KW : 558.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance \*NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 473.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0

Spred \_\_\_\_\_  
Tolerance  
cm<sup>3</sup>/1000 strokes : 11.0

Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 7.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 11.0

Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 473.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 11.0

Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

LOW IDLE

Testing:

Rated speed rpm : 250

rack travel mm : 6.25

Tolerance mm : +- 0.20

TORQUE CONTROL

Rated speed rpm : 700

rack travel mm : 13.60

Tolerance mm : +- 0.05

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 95.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 7.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 11.0

Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.02.91  
Test oil : ISO 4113

Combination No. : 0 400 836 043

Injection pump  
Pump designation : PES6A100D320/3RS2691  
: -2  
EP type number : 9 410 230 028

Governor  
Governor design. : RQV350...1200AB1245R  
Governor no. : 0 420 213 118

Cust. part No. :

## Customer-spec. information

Customer : CDC  
Motor : 6CT830  
Power KW : 157.0

## TEST BENCH REQUIREMENTS

Inlet Line : 2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 017

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 28.0  
Tolerance bar : + 1.0

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

## BASIC SETTING

Del. quantity  
cm3/1000 strokes : 114.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 3.5

Spread  
Tolerance  
cm3/1000 strokes : 4.0

Check tolerance  
cm3/1000S. : 6.5

Rated speed rpm : 350

Rack travel in mm : 4.80  
Tolerance mm : + 0.20

Del. quantity  
cm3/1000 strokes : 18.0

Tolerance  
cm3/1000 strokes : + 2.0

Check tolerance  
cm3/1000S. : + 4.5

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 0.10  
Tolerance mm : + - 0.10

Rated speed rpm : 1200  
guide sleeve  
travel mm : 6.90

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.25  
Tolerance mm : + - 0.25

Rated speed rpm : 450  
guide sleeve  
travel mm : 2.15  
Tolerance mm : + - 0.25

Rated speed rpm : 1350  
guide sleeve  
travel mm : 8.45  
Tolerance mm : + - 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 3.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

CONTROL LEVER

control lever  
position degree : 96.0

tolerance degree : + - 4.0

RATED SPEED

rack travel mm : 9.80  
Rated speed rpm : 1245  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1330  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1400

LOW IDLE

control lever  
position degree : 62.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm : + - 0.10

rack travel mm : 2.00

START CUT-OUT

Rated speed rpm : < 290  
Check  
speed 1/min : < 300

BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1245  
Tolerance 1/min : + - 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + - 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 13.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.10.95  
Test oil : ISO 4113

Combination No. : 0 402 670 811

Injection pump  
Pump designation : PE12P120A520/5RS7385  
EP type number : 0 412 620 846

Governor  
Governor design. : RSVU300...1150POA364  
Governor no. : 0 421 829 112

Cust. part No. : 12277646KY0120-17

## Customer-spec. information

Customer : MWM  
Motor : TBD 616-V12  
Power KW : 648.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.50

Firing order : 1- 2- 9-10- 5- 6  
: - 11- 12- 3- 4  
: - 7- 8

Phasing : 0-30-60-90-120-150  
: -180-210-240-270  
: -300-330

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.40  
 Tolerance mm : + - 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 38.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1250  
 Del. quantity cm<sup>3</sup>/1000 strokes : 262.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spred Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 113.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.60  
 Rated speed rpm : 1193  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1270  
 Tolerance 1/min : + - 15

rack travel mm : 1.00  
 Tolerance mm : + - 0.70  
 Rated speed rpm : 1380

rack travel mm : 4.00  
 Rated speed rpm : 1280

##### LOW IDLE

control lever position degree : 74.0  
 tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 5.90

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 6.40  
 Tolerance mm : + - 0.10

rack travel mm : 2.00  
 Rated speed rpm : 450  
 Tolerance 1/min : + - 30

##### TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 12.60  
 Tolerance mm : + - 0.05

Rated speed rpm : 800  
 rack travel mm : 12.60  
 Tolerance mm : + - 0.10

Rated speed rpm : 500  
 rack travel mm : 12.60  
 Tolerance mm : + - 0.10

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST**

---

**SETTING**

Rated speed rpm : 600  
Pressure hPa : 1250  
rack travel mm : 12.60  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 8.60  
Tolerance mm : + - 0.10

Rated speed rpm : 600

Pressure hPa : 670  
rack travel mm : 11.40  
Tolerance mm : + - 0.10

Pressure hPa : 450  
rack travel mm : 9.60  
Tolerance mm : + - 0.05

---

**FUEL DELIVERY CHARACTERISTICS**

---

Aneroid pressure  
hPa : 1250  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 131.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

**BREAKAWAY**

Rack travel in mm : 11.60  
Rated speed rpm : 1193  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 16.00  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 347.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 14.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 20.0

---

**LOW IDLE**

Rated speed rpm : 300  
rack travel mm : 6.40  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.09.95  
Test oil : ISO 4113

Combination No. : 0 402 678 829

Injection pump  
Pump designation : PE8P120A520/5RS7384  
EP type number : 0 412 628 909

Governor  
Governor design. : RSV300...1150POA364  
Governor no. : 0 421 829 112

Cust. part No. : 12277644KY0120-17

## Customer-spec. information

Customer : MM  
Motor : TBD 616 V8  
Power KW : 432.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 4i7 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 0.50

Firing order : 1- 8- 5- 4- 7  
: - 2- 3- 6

Phasing : 0-30-90-120-180  
: -210-270-300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 262.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

---

Rated speed rpm : 300

---

Rack travel in mm : 6.40  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 38.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 262.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 115.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.60  
 Rated speed rpm : 1193  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1270  
 Tolerance 1/min : + - 15

rack travel mm : 1.00  
 Tolerance mm : + - 0.70  
 Rated speed rpm : 1380

rack travel mm : 4.00  
 Rated speed rpm : 1285

##### LOW IDLE

control lever  
 position degree : 78.0  
 tolerance degree : + - 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 5.90

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 6.40  
 Tolerance mm : + - 0.10

rack travel mm : 2.00  
 Rated speed rpm : 450  
 Tolerance 1/min : + - 30

##### TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 12.60  
 Tolerance mm : + - 0.05

Rated speed rpm : 800  
 rack travel mm : 12.60  
 Tolerance mm : + - 0.10

---

**ANEROID/ALTITUDE  
COMPENSATOR TEST****SETTING**

Rated speed rpm : 600  
Pressure hPa : 1250  
rack travel mm : 12.60  
Tolerance mm :  $\pm$  0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 8.60  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600

Pressure hPa : 670  
rack travel mm : 11.40  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 450  
rack travel mm : 9.60  
Tolerance mm :  $\pm$  0.05

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 261.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 131.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.0  
Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

**BREAKAWAY**

Rack travel in mm : 11.60  
Rated speed rpm : 1193  
Tolerance 1/min :  $\pm$  5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 16.20  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 347.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  14.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  20.0

---

**LOW IDLE**

Rated speed rpm : 300  
rack travel mm : 6.40  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 29.09.95  
Test oil : ISO 4113

Combination No. : 0 402 646 652

Injection pump  
Pump designation : PE6P130A720RS7137  
: -10  
EP type number : 0 412 636 832

Governor  
Governor design. : RQ750PA865-3  
Governor no. : 0 421 801 751

Cust. part No. : 866371 P03 v. 6/94

## Customer-spec. information

Customer : PENTA  
Motor : TWD 1630 G  
Power KW : 392.0

## TEST BENCH REQUIREMENTS

Inlet Line : 4.2

Vibration  
damper  
(RoBo diaphragm) : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 010

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 450.0

Tolerance cm <sup>3</sup> /1000 strokes	: + - 1.5	Rated speed rpm	: 850
Check tolerance cm <sup>3</sup> /1000S.	: + - 5.0	Rated speed rpm	: 748
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 7.0	rack travel mm	: 13.25
Check tolerance cm <sup>3</sup> /1000S.	: 11.0	Rated speed rpm	: 787
(B) SETTING OF INJECTION PUMP WITH GOVERNOR		Tolerance 1/min	: + - 5
FULL LOAD DELIVERY AT FULL LOAD STOP		rack travel mm	: 4.00
Rated speed rpm	: 700	rack travel mm	: 0.50
Aneroid pressure hPa	: -	Tolerance mm	: + - 0.50
Del. quantity cm <sup>3</sup> /1000 strokes	: 450.0	Rated speed rpm	: 850
Tolerance cm <sup>3</sup> /1000 strokes	: + - 1.5	Rated speed rpm	: 750
Check tolerance cm <sup>3</sup> /1000S.	: + - 5.0	rack travel mm	: 13.25
Spred Tolerance cm <sup>3</sup> /1000 strokes	: 7.0	Rated speed rpm	: 789
Check tolerance cm <sup>3</sup> /1000S.	: 11.0	Tolerance 1/min	: + - 5
CONTROL LEVER		rack travel mm	: 4.00
control lever position degree	: 29.0	rack travel mm	: 0.50
tolerance degree	: + - 4.0	Tolerance mm	: + - 0.50
control lever position degree	: 90.0	Rated speed rpm	: 850
tolerance degree	: + - 4.0	Rated speed rpm	: 751
RATED SPEED		rack travel mm	: 13.25
rack travel mm	: 13.25	Rated speed rpm	: 790
Rated speed rpm	: 751	Tolerance 1/min	: + - 5
Tolerance 1/min	: + - 3	rack travel mm	: 4.00
rack travel mm	: 4.00	rack travel mm	: 0.50
Rated speed rpm	: 789	Tolerance mm	: + - 0.50
Tolerance 1/min	: + - 7	Rated speed rpm	: 850
rack travel mm	: 0.50	Rated speed rpm	: 752
Tolerance mm	: + - 0.50	rack travel mm	: 13.25
Rated speed rpm		Rated speed rpm	: 791
		Tolerance 1/min	: + - 5
		rack travel mm	: 4.00
		rack travel mm	: 0.50
		Tolerance mm	: + - 0.50
		Rated speed rpm	: 850
		Rated speed rpm	: 753

rack travel mm : 13.25

Rated speed rpm : 792

Tolerance 1/min : +- 5

rack travel mm : 4.00

rack travel mm : 0.50

Tolerance mm : +- 0.50

Rated speed rpm : 850

---

#### TORQUE CONTROL

Rated speed rpm : 700

rack travel mm : 14.25

Tolerance mm : +- 0.05

---

#### BREAKAWAY

Rack travel in mm : 13.25

Rated speed rpm : 751

Tolerance 1/min : +- 3

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.95  
Test oil : ISO 4113

Combination No. : 0 401 848 829

Injection pump  
Pump designation : PE8P110A320LS3865  
EP type number : 0 411 818 728

Governor  
Governor design. : RQ250/1150PA1250  
Governor no. : 0 421 801 796

Cust. part No. :

Customer-spec. information  
Customer : DAEWOO  
Motor : V2-8NA

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 4.00  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance  
Check  
tolerance °NW : + - 0.50

## Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.80  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 126.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + - 4.0

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0  
  
 Rated speed rpm : 250  
  
 Rack travel in mm : 8.10  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 25.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

#### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.59  
 Tolerance mm : + - 0.20  
  
 Rated speed rpm : 1205  
 guide sleeve  
 travel mm : 7.34  
 Tolerance mm : + - 0.15  
  
 Rated speed rpm : 1150  
 guide sleeve  
 travel mm : 7.00  
 Tolerance mm : + - 0.10  
  
 Rated speed rpm : 414  
 guide sleeve  
 travel mm : 5.47  
 Tolerance mm : + - 0.10  
  
 Rated speed rpm : 510  
 guide sleeve  
 travel mm : 7.00  
 Tolerance mm : + - 0.10  
  
 Rated speed rpm : 1340  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + - 0.50

#### GUIDE SLEEVE POSITION

Rated speed rpm : 700  
  
 Rack travel in mm : 15.50  
 Tolerance mm : + - 1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 126.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### CONTROL LEVER

control lever  
 position degree : 36.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 98.0  
 tolerance degree : + - 4.0

#### RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 1203  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1260  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350

#### LOW IDLE

control lever  
 position degree : 77.0

tolerance degree : + - 4.0

control lever

position degree : 14.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 250  
rack travel mm : 8.10  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : + - 20

Rated speed rpm : 150

CRT mm min. : > 9.90

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 11.80  
Tolerance mm : + - 0.05

Rated speed rpm : 650  
rack travel mm : 11.80  
Tolerance mm : + - 0.10

#### START CUT-OUT

Rated speed rpm : < 170  
Check speed 1/min : < 190

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm3/1000 strokes : 127.0  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0

#### BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 1203  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 135.0  
Tolerance  
cm3/1000 strokes : + - 20.0  
Check tolerance  
cm3/1000S. : + - 24.0

#### LOW IDLE

Rated speed rpm : 250  
rack travel mm : 8.10  
Tolerance mm : + - 0.30  
Del. quantity  
cm3/1000 strokes : 25.0  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 10.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 345

Injection pump  
Pump designation : PE6P120A320RS3301  
EP type number : 0 411 826 805

Governor  
Governor design. : RSV250...1100POA374  
: -12  
Governor no. : 0 421 833 375

Cust. part No. : 865409 P04 v. 6/95

### Customer-spec. information

Customer : PENTA  
Motor : TAMD 102 D

### TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Vibration  
damper  
(RoBo diaphragm) : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 3.45  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.75

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.30  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 280.0

Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0  
 Del. quantity cm<sup>3</sup>/1000 strokes : 24.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.85  
 Tolerance mm : + 0.55  
 governor spring pre-tension click setting x : 2.25

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 280.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

##### CONTROL LEVER

control lever position degree : + 44.0  
 tolerance degree : + 4.0

control lever position degree : + 94.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 12.30  
 Rated speed rpm : 1145  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1230  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1350

rack travel mm : 4.00  
 Rated speed rpm : 1240

##### LOW IDLE

control lever position degree : + 69.0  
 tolerance degree : + 4.0

control lever position degree : + 19.0  
 tolerance degree : + 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 250  
 rack travel mm : 5.70

##### Testing:

Rated speed rpm : 250  
 rack travel mm : 6.20  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 370  
 Tolerance 1/min : + 30

##### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.30  
Tolerance mm : + - 0.05

Rated speed rpm : 700  
rack travel mm : 13.30  
Tolerance mm : + - 0.05

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.30  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.10  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 1100  
rack travel mm : 4.70  
Tolerance mm : + - 0.15

Pressure hPa : 150  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 303.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 148.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.00  
Tolerance mm : + - 0.50

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 18.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 346

Injection pump  
Pump designation : PE6P110A320RS497  
EP type number : 0 411 816 165

Governor  
Governor design. : RSV250...1200P1A374  
: -14  
Governor no. : 0 421 833 464

Cust. part No. : 866537-P03 v. 12/94

Customer-spec. information  
Customer : PENTA  
Motor : TID 72A

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.85  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 139.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 5.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 139.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

##### RATED SPEED

rack travel mm : 11.85

Rated speed rpm : 1215

Tolerance 1/min : + 5

rack travel mm : 0.85

Tolerance mm : + 0.55

Rated speed rpm : 1400

##### LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 250  
rack travel mm : 5.20

Testing:  
Rated speed rpm : 250  
rack travel mm : 4.70  
Tolerance mm : + 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.85  
Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.40  
Tolerance mm : + 0.10

Rated speed rpm : 500  
Pressure hPa : 910  
rack travel mm : 3.10  
Tolerance mm : + 0.10

Pressure hPa : 310  
rack travel mm : 0.25  
Tolerance mm : + 0.05

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 77.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

##### BREAKAWAY

Rack travel in mm : 11.85  
Rated speed rpm : 1215

Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 19.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 762

Injection pump  
Pump designation : PE6P120A320RS3206  
EP type number : 0 411 826 773

Governor  
Governor design. : RSV250...900P4A374  
: -7  
Governor no. : 0 421 833 284

Cust. part No. : 863094 P04 v. 6/95

### Customer-spec. information

Customer : VOLVO-PENTA  
Motor : TMD 122 A (HD)  
Power KW : 236.0

### TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Vibration  
damper  
(RoBo diaphragm) : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 8.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check tolerance °NW : + 0.75

### Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.95  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 213.5

Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring pre-tension  
 click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 213.5  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spred  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 57.0  
 tolerance degree : + 4.0  
 control lever position degree : 107.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 8.95  
 Rated speed rpm : 930  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 980  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1130

##### LOW IDLE

control lever position degree : 79.0  
 tolerance degree : + 4.0  
 control lever position degree : 29.0  
 tolerance degree : + 4.0  
 Setting point w/out bumper spring  
 Rated speed rpm : 250  
 rack travel mm : 4.60

##### Testing:

Rated speed rpm : 250  
 rack travel mm : 5.10  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 410  
 Tolerance 1/min : + 30

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 700  
 Pressure hPa : 1000  
 rack travel mm : 9.95  
 Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 700

rack travel mm : 8.70  
Tolerance mm : + - 0.10

Rated speed rpm : 700

Pressure hPa : 570  
rack travel mm : 0.80  
Tolerance mm : + - 0.15

Pressure hPa : 460  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 178.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 8.95  
Rated speed rpm : 930  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.50  
Tolerance mm : + - 0.50

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 808

Injection pump  
Pump designation : PE6P120A320RS3355  
EP type number : 0 411 826 814

Governor  
Governor design. : RSV300...1100P1A604  
Governor no. : 0 421 833 485

Cust. part No. : 3825516 P02 v. 5/95

---

Customer-spec. information  
Customer : PENTA  
Motor : TD1030ME  
Power KW : 190.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Overflow quantity  
min. L/h : 85  
Tolerance L/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 3.45  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 9.90  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.75

Start of delivery mark

Barrel no. : 1

---

## BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 12.50  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 156.0

---

Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0  
 Rated speed rpm : 300  
 Rack travel in mm : 4.70  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.85  
 Tolerance mm : +- 0.55  
 governor spring  
 pre-tension  
 click setting x : 4.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 156.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spred

Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

##### CONTROL LEVER

control lever  
 position degree : 62.0  
 tolerance degree : +- 4.0

control lever  
 position degree : 112.0  
 tolerance degree : +- 4.0

##### RATED SPEED

rack travel mm : 11.50  
 Rated speed rpm : 1135  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1190  
 Tolerance 1/min : +- 15

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1300

rack travel mm : 4.00  
 Rated speed rpm : 1195

##### LOW IDLE

control lever  
 position degree : 76.0  
 tolerance degree : +- 4.0

control lever  
 position degree : 26.0  
 tolerance degree : +- 4.0

##### Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 4.20

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 4.70  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 380

Tolerance 1/min : + 30

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.50  
Tolerance mm : + 0.05

Rated speed rpm : 700  
rack travel mm : 12.50  
Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.50  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.55  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 555  
rack travel mm : 2.30  
Tolerance mm : + 0.15

Pressure hPa : 140  
rack travel mm : 0.25  
Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 179.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

#### Aneroid pressure

hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 11.50  
Rated speed rpm : 1135  
Tolerance 1/min : + 5

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.70  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 11.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 810

**Injection pump**  
Pump designation : PE6P120A320RS3359  
EP type number : 0 411 826 815

Governor  
Governor design. : RSV325...1200P1A615  
Governor no. : 0 421 833 503

Cust. part No. : 3825515 P01 v. 5/95

## Customer-spec. information

Customer : PENTA  
Motor : TD 730ME  
Power KW : 150.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.35  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 9.00  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.10  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Speed Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0  
 Rated speed rpm : 325  
 Rack travel in mm : 4.40  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 30.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
 Speed Tolerance cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : 6.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.85  
 Tolerance mm : + 0.55  
 governor spring pre-tension click setting x : 6.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 130.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Speed Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

##### CONTROL LEVER

control lever position degree : 68.0  
 tolerance degree : + 4.0  
 control lever position degree : 118.0  
 tolerance degree : + 4.0  
**RATED SPEED**  
 rack travel mm : 10.10  
 Rated speed rpm : 1235  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1280  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1400

##### LOW IDLE

control lever position degree : 79.0  
 tolerance degree : + 4.0  
 control lever position degree : 29.0  
 tolerance degree : + 4.0  
**Setting point w/out bumper spring**  
 Rated speed rpm : 325  
 rack travel mm : 3.90

##### Testing:

Rated speed rpm : 325  
 rack travel mm : 4.40  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 390  
 Tolerance 1/min : + 30

##### TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 11.10

Tolerance mm : + 0.05  
Rated speed rpm : 700  
rack travel mm : 11.10  
Tolerance mm : + 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.00  
Tolerance mm : + 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.80  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 770  
rack travel mm : 1.85  
Tolerance mm : + 0.15

Pressure hPa : 390  
rack travel mm : 0.25  
Tolerance mm : + 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance cm<sup>3</sup>/1000S. : 11.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 89.0

Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 4.0

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1235  
Tolerance 1/min : + 5

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 4.40  
Tolerance mm : + 0.20  
Del. quantity cm<sup>3</sup>/1000 strokes : 30.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 2.5  
Check tolerance cm<sup>3</sup>/1000S. : + 5.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance cm<sup>3</sup>/1000S. : 6.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 16.10.95  
Test oil : ISO 4113

Combination No. : 0 402 046 801

Injection pump  
Pump designation : FES6P110A720RS3104  
EP type number : 0 412 016 712

Governor  
Governor design. : RQV300...1150PA850  
: -2  
Governor no. : 0 421 813 718

Cust. part No. :

## Customer-spec. information

Customer : KHD  
Motor : BF6L513RC  
Power KW : 231.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 6- 2- 4- 1- 5-  
: 3

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 6

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 14.45  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 173.0

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 300

Rack travel in mm : 7.80  
Tolerance mm : + - 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 1190

Rack travel in mm : 16.50  
Tolerance mm : + - 1.30

#### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150

Aneroid pressure  
hPa : 900

Del. quantity  
cm<sup>3</sup>/1000 strokes : 173.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.30  
Tolerance mm : + - 0.10

Rated speed rpm : 1195  
guide sleeve  
travel mm : 8.50  
Tolerance mm : + - 0.10

Rated speed rpm : 350  
guide sleeve  
travel mm : 2.20  
Tolerance mm : + - 0.30

Rated speed rpm : 650  
guide sleeve  
travel mm : 4.50  
Tolerance mm : + - 0.30

Rated speed rpm : 1320  
guide sleeve  
travel mm : 9.90  
Tolerance mm : + - 0.20

##### CONTROL LEVER

control lever  
position degree : 56.0  
tolerance degree : + - 4.0

control lever  
position degree : 122.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 13.40  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1320  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1450

##### LOW IDLE

control lever  
position degree : 86.0  
tolerance degree : + - 4.0

##### GUIDE SLEEVE POSITION

control lever  
position degree : 20.0  
tolerance degree :  $\pm$  4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 7.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 100

CRT mm min. : > 9.30

Rated speed rpm : 395

TORQUE CONTROL

Dimension a mm : 0.20  
Rated speed rpm : 1150  
rack travel mm : 14.45  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 700  
rack travel mm : 14.70  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 950  
rack travel mm : 14.55  
Tolerance mm :  $\pm$  0.05

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 450  
Pressure hPa : 900  
rack travel mm : 14.70  
Tolerance mm :  $\pm$  0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 450  
rack travel mm : 12.40  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 450

Pressure hPa : 390  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10

Pressure hPa : 530  
rack travel mm : 14.05

Tolerance mm :  $\pm$  0.05

START CUT-OUT

Rated speed rpm : < 220  
Check speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 900  
Rated speed rpm : 700  
Del. quantity cm<sup>3</sup>/1000 strokes : 178.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0

Aneroid pressure hPa : -  
Rated speed rpm : 450  
Del. quantity cm<sup>3</sup>/1000 strokes : 124.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1195  
Tolerance 1/min :  $\pm$  5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  19.0

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.80  
Tolerance mm :  $\pm$  0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.5  
Check tolerance  
cm<sup>3</sup>/1000s. : + - 5.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.09.95  
Test oil : ISO 4113

Combination No. : 0 402 640 817

Injection pump  
Pump designation : PE12P120A520LS7826  
EP type number : 0 412 620 817

Governor  
Governor design. : RQV350...1150PA870  
: -4  
Governor no. : 0 421 813 717

Cust. part No. :

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM 444 LA  
Power KW : 736.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 160  
Tolerance l/h : +- 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 4.45  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.00  
Tolerance mm : +- 1.00

Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7

Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345

Tolerance check : +- 0.30  
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 12

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 15.15  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 301.0

Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 10.0  
 Rated speed rpm : 350  
 Rack travel in mm : 5.60  
 Tolerance mm : + - 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 15.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve travel mm : 1.55  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1206  
 guide sleeve travel mm : 8.15  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 600  
 guide sleeve travel mm : 3.55  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 960  
 guide sleeve travel mm : 5.55  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1291  
 guide sleeve travel mm : 10.05

Tolerance mm : + - 0.25

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1275  
 Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure hPa : 1800  
 Del. quantity cm<sup>3</sup>/1000 strokes : 301.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance cm<sup>3</sup>/1000S. : 10.0

##### CONTROL LEVER

control lever position degree : 117.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 14.20  
 Rated speed rpm : 1195  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1285  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350

Rated speed rpm : 753  
 Tolerance 1/min : + - 3  
 rack travel mm : 10.80

Rated speed rpm : 785  
 Tolerance 1/min : + - 5  
 rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 900

rack travel mm : 10.80

rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50

rack travel mm : 10.80

rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50

rack travel mm : 10.80

rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50

rack travel mm : 10.80

rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50

rack travel mm : 10.80

rack travel mm : 4.00

rack travel mm : 0.50  
Tolerance mm : + - 0.50

#### LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 5.60  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 7.30

Rated speed rpm : 475

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 15.15  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 15.25  
Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Pressure hPa : 400  
rack travel mm : 1.75  
Tolerance mm : + - 0.05

Pressure hPa : 1050  
rack travel mm : 5.90  
Tolerance mm : + - 0.10

#### START CUT-OUT

Rated speed rpm : < 310  
Check  
speed 1/min : < 330

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1800  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 306.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Aneroid pressure  
hPa : 1800  
Rated speed rpm : 1150

Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 124.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

---

#### BREAKAWAY

Rack travel in mm : 14.20  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 331.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.60  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.10.95  
Test oil : ISO 4113

Combination No. : 0 402 640 842

Injection pump  
Pump designation : PE12P120A520/5RS7304  
EP type number : 0 412 620 838

Governor  
Governor design. : RQV300...550/1050PA1  
: 093  
Governor no. : 0 421 814 067

Cust. part No. :

## Customer-spec. information

Customer : MWM  
Motor : TBD234-FAUN

## TEST BENCH REQUIREMENTS

Inlet line : 3.1,3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 4i7 413 025

Overflow quantity  
min. l/h : 170  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.20  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 19.50  
Tolerance mm : + 1.50

Firing order : 1- 2- 9-10- 5- 6  
: - 11- 12- 3- 4  
: - 7- 8

Phasing : 0-30-60-90-120-150  
: -180-210-240-270  
: -300-330

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 300
Rack travel in mm	: 6.75
Tolerance mm	: + 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 38.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 5.0
Check tolerance cm <sup>3</sup> /1000S.	: + 8.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve travel mm	: 1.30
Tolerance mm	: + 0.25

Rated speed rpm	: 1107
guide sleeve travel mm	: 6.75
Tolerance mm	: + 0.25

Rated speed rpm	: 1050
guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.25

Rated speed rpm	: 586
guide sleeve travel mm	: 5.55
Tolerance mm	: + 0.25

Rated speed rpm	: 636
guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.25

Rated speed rpm	: 500
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guide sleeve travel mm	: 6.00
Tolerance mm	: + 0.25
Rated speed rpm	: 1260
guide sleeve travel mm	: 11.50
Tolerance mm	: + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	: 1160
Rack travel in mm	: 12.60
Tolerance mm	: + 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1050
Aneroid pressure hPa	: 1250
Del. quantity cm <sup>3</sup> /1000 strokes	: 235.0
Tolerance cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance cm <sup>3</sup> /1000S.	: + 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

##### CONTROL LEVER

control lever position degree	: 51.0
tolerance degree	: + 4.0

control lever position degree	: 115.0
tolerance degree	: + 4.0

##### RATED SPEED

rack travel mm	: 13.70
Rated speed rpm	: 1095
Tolerance 1/min	: + 5

rack travel mm	: 4.00
Rated speed rpm	: 1155
Tolerance 1/min	: + 15

rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1300

---

**LOW IDLE**

control lever  
position degree : 85.0  
tolerance degree : + - 4.0

control lever  
position degree : 20.0  
tolerance degree : + - 4.0

**Testing:**

Rated speed rpm : 300  
rack travel mm : 6.75  
Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 8.80

Rated speed rpm : 300

---

**TORQUE CONTROL**

Rated speed rpm : 1050  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Rated speed rpm : 800  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Rated speed rpm : 500  
rack travel mm : 14.70  
Tolerance mm : + - 0.05

---

**ANEROID/ALTITUDE COMPENSATOR TEST****SETTING**

Rated speed rpm : 500  
Pressure hPa : 2000  
rack travel mm : 14.70  
Tolerance mm : + - 0.05

**MEASUREMENT**

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : + - 0.20

Rated speed rpm : 500  
Pressure hPa : 225  
rack travel mm : 10.70  
Tolerance mm : + - 0.25

Pressure hPa : 595  
rack travel mm : 12.20  
Tolerance mm : + - 0.05

Pressure hPa : 1250  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Pressure hPa : 1450  
rack travel mm : 13.95  
Tolerance mm : + - 0.25

---

**START CUT-OUT**

Rated speed rpm : < 220  
Check speed 1/min : < 240

---

**FUEL DELIVERY CHARACTERISTICS**

Aneroid pressure hPa : 1250  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 234.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 144.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

---

**BREAKAWAY**

Rack travel in mm : 13.70  
Rated speed rpm : 1095  
Tolerance 1/min : + - 5

---

**STARTING FUEL DELIVERY**

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 274.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.75  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 8.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.10.95  
Test oil : ISO 4113

Combination No. : 0 402 646 644

Injection pump  
Pump designation : FE6P120A320RS7319  
EP type number : 0 412 626 914

Governor  
Governor design. : RQV300...1400PA1124  
Governor no. : 0 421 814 086

Cust. part No. : 866633 P03 5.10.95

## Customer-spec. information

Customer : PENTA  
Motor : TAMD 63  
Power KW : 265.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.65  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.90  
Tolerance mm : + 0.05

Del. quantity  
cm³/1000 strokes : 241.0

Tolerance  
cm³/1000 strokes : + 1.0

Check tolerance cm <sup>3</sup> /1000S.	: + -	4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	11.0
Del. quantity cm <sup>3</sup> /1000 strokes	:	23.0
Tolerance cm <sup>3</sup> /1000 strokes	: + -	3.0
Check tolerance cm <sup>3</sup> /1000S.	: + -	5.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	:	5.0
Check tolerance cm <sup>3</sup> /1000S.	:	8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm	:	300
guide sleeve travel mm	:	1.24
Tolerance mm	: + -	0.25
Rated speed rpm	:	1456
guide sleeve travel mm	:	7.69
Tolerance mm	: + -	0.25
Rated speed rpm	:	1170
guide sleeve travel mm	:	5.67
Tolerance mm	: + -	0.25
Rated speed rpm	:	448
guide sleeve travel mm	:	2.83
Tolerance mm	: + -	0.25
Rated speed rpm	:	498
guide sleeve travel mm	:	3.20
Tolerance mm	: + -	0.25
Rated speed rpm	:	690
guide sleeve travel mm	:	3.68
Tolerance mm	: + -	0.25
Rated speed rpm	:	1638

guide sleeve travel mm	:	10.00
Tolerance mm	: + -	0.25
Rated speed rpm	:	1760
guide sleeve travel mm	:	11.50
Tolerance mm	: + -	0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm	:	1640
Rack travel in mm	:	9.00
Tolerance mm	: + -	3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	1000
Aneroid pressure hPa	:	2000
Del. quantity cm <sup>3</sup> /1000 strokes	:	241.0
Tolerance cm <sup>3</sup> /1000 strokes	: + -	1.0
Check tolerance cm <sup>3</sup> /1000S.	: + -	4.0
Spred Tolerance cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance cm <sup>3</sup> /1000S.	:	11.0

##### CONTROL LEVER

control lever position degree	:	54.0
tolerance degree	: + -	4.0
control lever position degree	:	118.0
tolerance degree	: + -	4.0

##### RATED SPEED

rack travel mm	:	11.90
Rated speed rpm	:	1440
Tolerance 1/min	: + -	5
rack travel mm	:	4.00
Rated speed rpm	:	1570
Tolerance 1/min	: + -	15
rack travel mm	:	0.50
Tolerance mm	: + -	0.50
Rated speed rpm	:	1650

---

#### LOW IDLE

control lever

position degree : 81.0  
tolerance degree : + - 4.0

control lever

position degree : 17.0  
tolerance degree : + - 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.40  
Tolerance mm : + - 0.20

Rated speed rpm : 200

CRT mm min. : > 6.80

Rated speed rpm : 350

---

#### TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.90  
Tolerance mm : + - 0.05

Rated speed rpm : 1400  
rack travel mm : 12.90  
Tolerance mm : + - 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 2000  
rack travel mm : 13.30  
Tolerance mm : + - 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.20  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 1400  
rack travel mm : 4.70

Tolerance mm : + - 0.20

Pressure hPa : 430  
rack travel mm : 0.25  
Tolerance mm : + - 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 2000  
Rated speed rpm : 1400  
Del. quantity cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance cm<sup>3</sup>/1000S. : 14.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 84.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.90  
Rated speed rpm : 1440  
Tolerance 1/min : + - 5

---

#### LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.95  
Test oil : ISO 4113

Combination No. : 0 402 646 744

Injection pump  
Pump designation : FE6P120A320LS7872  
EP type number : 0 412 626 912

Governor  
Governor design. : RQV300...1050PA1259  
Governor no. : 0 421 814 169

Cust. part No. : 04221532 KY 0165-17

## Customer-spec. information

Customer : KHD  
Motor : BF6M1015C  
Power KW : 270.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 195  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 6- 3- 5- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 13.20  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 328.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 300  
 \_\_\_\_\_  
 Rack travel in mm : 4.60  
 Tolerance mm : + - 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.24  
 Tolerance mm : + - 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1098  
 guide sleeve  
 travel mm : 10.02  
 Tolerance mm : + - 0.15  
 \_\_\_\_\_  
 Rated speed rpm : 860  
 guide sleeve  
 travel mm : 5.59  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 560  
 guide sleeve  
 travel mm : 3.24  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1154  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : + - 0.25

Rated speed rpm : 1230  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1130  
 Rack travel in mm : 12.70  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 328.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 122.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 12.20  
 Rated speed rpm : 1085  
 Tolerance 1/min : + - 5  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1125  
 Tolerance 1/min : + - 15  
 \_\_\_\_\_  
 rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1280

##### LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.60  
Tolerance mm : +- 0.10

Rated speed rpm : 200

CRT mm/min. : > 6.10

Rated speed rpm : 345

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.20  
Tolerance mm : +- 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 1700  
rack travel mm : 13.20  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 8.30  
Tolerance mm : +- 0.20

Rated speed rpm : 400

Pressure hPa : 450  
rack travel mm : 9.20  
Tolerance mm : +- 0.10

Pressure hPa : 1000  
rack travel mm : 12.00  
Tolerance mm : +- 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 400

Del. quantity  
cm<sup>3</sup>/1000 strokes : 230.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

BREAKAWAY

Rack travel in mm : 12.20  
Rated speed rpm : 1085  
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 8.30  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 24.0

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.60  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 17.10.95  
Test oil : ISO 4113

Combination No. : 0 402 648 926

Injection pump  
Pump designation : FE8P120A320LS7840  
EP type number : 0 412 628 850

Governor  
Governor design. : RQ300/1050PA972-11  
Governor no. : 0 421 801 739

Cust. part No. : 0220747002

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM442 A  
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : +- 0.1

Tolerance l/h : +- 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 5.25  
Tolerance mm : +- 0.05

test only : +- 0.10

Rack travel in mm : 20.50  
Tolerance mm : +- 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.60  
Tolerance mm : +- 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.50  
 Tolerance mm : + 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
 Spread Tolerance cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve travel mm : 1.85  
 Tolerance mm : + 0.10  
 Rated speed rpm : 1104  
 guide sleeve travel mm : 6.37  
 Tolerance mm : + 0.10  
 Rated speed rpm : 1050  
 guide sleeve travel mm : 6.00  
 Tolerance mm : + 0.10  
 Rated speed rpm : 402  
 guide sleeve travel mm : 3.68  
 Tolerance mm : + 0.10  
 Rated speed rpm : 540  
 guide sleeve travel mm : 6.00  
 Tolerance mm : + 0.10  
 Rated speed rpm : 1290

guide sleeve travel mm : 11.50  
 Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 Rack travel in mm : 20.00  
 Tolerance mm : + 0.80

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure hPa : 1000  
 Del. quantity cm<sup>3</sup>/1000 strokes : 194.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

##### CONTROL LEVER

control lever position degree : 96.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : 11.60  
 Rated speed rpm : 1098  
 Tolerance 1/min : + 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1200  
 Tolerance 1/min : + 15

rack travel mm : 0.75  
 Tolerance mm : + 0.75  
 Rated speed rpm : 1250

##### LOW IDLE

control lever position degree : 74.0  
 tolerance degree : + 4.0

### Testing:

Rated speed rpm	:	300
rack travel mm	:	6.50
Tolerance mm	:	+/- 0.10
rack travel mm	:	2.00
Rated speed rpm	:	435
Tolerance 1/min	:	+/- 20
Rated speed rpm	:	200
CRT mm min.	:	> 7.90

### TORQUE CONTROL

Rated speed rpm	:	1050
rack travel mm	:	12.60
Tolerance mm	:	+/- 0.10
Rated speed rpm	:	800
rack travel mm	:	12.60
Tolerance mm	:	+/- 0.10

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm	:	450
Pressure hPa	:	1000
rack travel mm	:	12.60
Tolerance mm	:	+/- 0.05

#### MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	450
rack travel mm	:	11.10
Tolerance mm	:	+/- 0.15

Rated speed rpm : 450

Pressure hPa	:	380
rack travel mm	:	11.70
Tolerance mm	:	+/- 0.15

Pressure hPa	:	500
rack travel mm	:	12.35
Tolerance mm	:	+/- 0.20

### START CUT-OUT

Rated speed rpm : < 220

Check  
speed 1/min : < 240

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure	:	1000
hPa	:	800
Del. quantity	:	cm <sup>3</sup> /1000 strokes
	:	195.0
Tolerance	:	cm <sup>3</sup> /1000 strokes
	:	+/- 2.0
Check tolerance	:	cm <sup>3</sup> /1000S.
	:	+/- 5.0

Aneroid pressure	:	-
hPa	:	500
Del. quantity	:	cm <sup>3</sup> /1000 strokes
	:	138.0
Tolerance	:	cm <sup>3</sup> /1000 strokes
	:	+/- 1.0
Check tolerance	:	cm <sup>3</sup> /1000S.
	:	+/- 4.0

### BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1098  
Tolerance 1/min : +/- 8

### STARTING FUEL DELIVERY

Rated speed rpm	:	100
Del. quantity	:	cm <sup>3</sup> /1000 strokes
	:	190.0
Tolerance	:	cm <sup>3</sup> /1000 strokes
	:	+/- 15.0
Check tolerance	:	cm <sup>3</sup> /1000S.
	:	+/- 19.0

### LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	6.50
Tolerance mm	:	+/- 0.30
Del. quantity	:	cm <sup>3</sup> /1000 strokes
	:	13.0
Tolerance	:	cm <sup>3</sup> /1000 strokes
	:	+/- 3.0
Check tolerance	:	cm <sup>3</sup> /1000S.
	:	+/- 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.10.95  
Test oil : ISO 4113

Combination No. : 0 402 648 927

Injection pump  
Pump designation : FE8P120A320LS7840  
EP type number : 0 412 628 850

Governor  
Governor design. : RQV300...1050PA797  
: -38  
Governor no. : 0 421 814 084

Cust. part No. : 0220747102

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM442 A  
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.25  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.60  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.50  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1100  
 Rack travel in mm : 16.50  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 194.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 122.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 11.60  
 Rated speed rpm : 1095  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1165  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1250

##### LOW IDLE

control lever  
 position degree : 86.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 300  
 rack travel mm : 6.50  
 Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 7.90

Rated speed rpm : 375

##### TORQUE CONTROL

Rated speed rpm : 1050  
 rack travel mm : 12.60  
 Tolerance mm : + - 0.05

Rated speed rpm : 800  
 rack travel mm : 12.60  
 Tolerance mm : + - 0.05

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Pressure hPa : 1000  
rack travel mm : 12.60  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 450  
rack travel mm : 11.10  
Tolerance mm : +- 0.15

Pressure hPa : 380  
rack travel mm : 11.75  
Tolerance mm : +- 0.15

Pressure hPa : 500  
rack travel mm : 12.35  
Tolerance mm : +- 0.20

#### START CUT-OUT

Rated speed rpm : < 220  
Check speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 195.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 138.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1095  
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 14.0

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.50  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.04.94  
Test oil : ISO 4113

Combination No. : 0 402 648 949

Injection pump  
Pump designation : FE8P120A320LS7863  
EP type number : 0 412 628 874

Governor  
Governor design. : RQV300...950PA1050  
: -2K  
Governor no. : 0 421 815 381

Cust. part No. : 0240740002

### Customer-spec. information

Customer : MB-NFZ  
Motor : OM442 LA  
Power KW : 370.0

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 105  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.05  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 14.05  
Tolerance mm : + 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 8

### BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 14.80  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 282.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 5.70  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.63  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1006  
 guide sleeve  
 travel mm : 7.50  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 790  
 guide sleeve  
 travel mm : 5.00  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 350  
 guide sleeve  
 travel mm : 2.56  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 400

guide sleeve  
 travel mm : 3.10  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 510  
 guide sleeve  
 travel mm : 3.52  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1192  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1280  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1160  
 Rack travel in mm : 13.80  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 950  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 282.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 114.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 13.80  
 rated speed rpm : 995  
 tolerance 1/min : + - 5  
 rack travel mm : 4.00

Rated speed rpm : 1095  
 Tolerance 1/min : + - 15  
 rack travel mm : 0.75  
 Tolerance mm : + - 0.75  
 Rated speed rpm : 1250

#### LOW IDLE

control lever  
 position degree : 76.0  
 tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 300  
 rack travel mm : 5.20  
 Tolerance mm : + - 0.10

Rated speed rpm : 200

CRT mm min. : > 7.30

Rated speed rpm : 300

#### TORQUE CONTROL

Rated speed rpm : 950  
 rack travel mm : 14.80  
 Tolerance mm : + - 0.05

Rated speed rpm : 850  
 rack travel mm : 15.00  
 Tolerance mm : + - 0.10

Rated speed rpm : 750  
 rack travel mm : 14.50  
 Tolerance mm : + - 0.10

Rated speed rpm : 700  
 rack travel mm : 14.20  
 Tolerance mm : + - 0.10

Rated speed rpm : 650  
 rack travel mm : 14.00  
 Tolerance mm : + - 0.10

Rated speed rpm : 550  
 rack travel mm : 13.95  
 Tolerance mm : + - 0.10

Rated speed rpm : 400  
 rack travel mm : 12.20  
 Tolerance mm : + - 0.10

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 850  
 Pressure hPa : 1200  
 rack travel mm : 15.00  
 Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 850  
 rack travel mm : 7.95  
 Tolerance mm : + - 0.15

Rated speed rpm : 850

Pressure hPa : 500  
 rack travel mm : 12.20  
 Tolerance mm : + - 0.10

Pressure hPa : 150  
 rack travel mm : 8.80  
 Tolerance mm : + - 0.20

#### START CUT-CUT

Rated speed rpm : < 220  
 Check  
 speed 1/min : < 240

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : 1200  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 277.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
 hPa : 1200  
 Rated speed rpm : 550  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 268.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : 500  
Rated speed rpm : 400  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 196.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 13.80  
Rated speed rpm : 995  
Tolerance 1/min : + 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.80  
Tolerance mm : + 0.40  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.70  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 19.07.95  
Test oil : ISO 4113

Combination No. : 0 402 648 953C

Injection pump  
Pump designation : FE8P120A320LS7859  
EP type number : 0 412 628 869

Governor  
Governor design. : RQV300...950PA1033  
: -10  
Governor no. : 0 421 814 040

Cust. part No. : 0230749702

## Customer-spec. information

Customer : MB-NFZ  
Motor : OM442 LA  
Power KW : 320.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Tolerance L/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.25  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : + - 0.30  
Check  
tolerance °NW : + - 0.50

## Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 15.00  
Tolerance mm : + - 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 254.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 300  
 \_\_\_\_\_  
 Rack travel in mm : 6.10  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 \_\_\_\_\_  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.29  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1009  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1570  
 guide sleeve  
 travel mm : 24.56  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 567  
 guide sleeve  
 travel mm : 4.66  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 617  
 guide sleeve  
 travel mm : 5.23  
 Tolerance mm : + - 0.25

Rated speed rpm : 780  
 guide sleeve  
 travel mm : 5.31  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1092  
 guide sleeve  
 travel mm : 10.00  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1190  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1035  
 \_\_\_\_\_  
 Rack travel in mm : 14.00  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 550  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 254.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 121.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 14.00  
 Rated speed rpm : 995  
 Tolerance 1/min : + - 5  
 \_\_\_\_\_  
 rack travel mm : 4.00  
 Rated speed rpm : 1090  
 Tolerance 1/min : + - 15

rack travel mm : 0.75  
Tolerance mm : +- 0.75  
Rated speed rpm : 1200

---

#### LOW IDLE

control lever  
position degree : 86.0  
tolerance degree : +- 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.10  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 443  
Tolerance 1/min : +- 20

Rated speed rpm : 200

CRT mm min. : > 9.00

Rated speed rpm : 350

---

#### TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 15.00  
Tolerance mm : +- 0.05

Rated speed rpm : 950  
rack travel mm : 15.00  
Tolerance mm : +- 0.05

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 400  
Pressure hPa : 1000  
rack travel mm : 15.00  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 9.10  
Tolerance mm : +- 0.15

Rated speed rpm : 400

Pressure hPa : 250  
rack travel mm : 10.80  
Tolerance mm : +- 0.10

Pressure hPa : 550  
rack travel mm : 13.70  
Tolerance mm : +- 0.10

---

#### START CUT-OUT

Rated speed rpm : < 220  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 242.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 135.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### BREAKAWAY

Rack travel in mm : 14.00  
Rated speed rpm : 995  
Tolerance 1/min : +- 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 235.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.10  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.06.95  
Test oil : ISO 4113

Combination No. : 0 402 678 803

Injection pump  
Pump designation : FE8P120A320LS7801-1  
EP type number : 0 412 628 818

Governor  
Governor design. : RSV350...750FOA825  
: -3  
Governor no. : 0 421 833 260

Cust. part No. :

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM442A  
Power KW : 240.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 067  
Outside diameter : 6.0  
x inside diameter : 1.5  
x length mm : 1000

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.25  
Tolerance mm : + 0.05  
test only : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 700

---

Rack travel in mm : 15.15  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.0

---

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 350  
 Rack travel in mm : 5.30  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + - 0.20

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 234.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 78.0  
 tolerance degree : + - 4.0  
 Rated speed rpm : 750  
 rack travel mm : 14.15  
 Rated speed rpm : 779  
 Tolerance 1/min : + - 4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 751  
 rack travel mm : 14.15  
 Rated speed rpm : 780  
 Tolerance 1/min : + - 4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 752  
 rack travel mm : 14.15  
 Rated speed rpm : 781  
 Tolerance 1/min : + - 4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 753  
 rack travel mm : 14.15  
 Rated speed rpm : 782  
 Tolerance 1/min : + - 4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55  
 Rated speed rpm : 754  
 rack travel mm : 14.15  
 Rated speed rpm : 783  
 Tolerance 1/min : + - 4  
 rack travel mm : 4.00  
 rack travel mm : 0.85  
 Tolerance mm : + - 0.55

Rated speed rpm : 755  
rack travel mm : 14.15

Rated speed rpm : 784  
Tolerance 1/min : + - 4  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : + - 0.55

---

#### LOW IDLE

control lever  
position degree : 64.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 5.30  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 380  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 15.00

#### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 15.15  
Tolerance mm : + - 0.05

Rated speed rpm : 600  
rack travel mm : 15.15  
Tolerance mm : + - 0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm3/1000 strokes : 236.0  
Tolerance  
cm3/1000 strokes : + - 3.0

Check tolerance  
cm3/1000S. : + - 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 240.0  
Tolerance  
cm3/1000 strokes : + - 10.0  
Check tolerance  
cm3/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.30  
Tolerance mm : + - 0.30  
Del. quantity  
cm3/1000 strokes : 19.0  
Tolerance  
cm3/1000 strokes : + - 3.0  
Check tolerance  
cm3/1000S. : + - 6.0  
Spred  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.07.93  
Test oil : ISO 4113

Combination No. : 0 402 678 817

Injection pump  
Pump designation : PE8P120A320LS7856  
EP type number : 0 412 628 867

Governor  
Governor design. : RSV550...1050P0A826  
: -4  
Governor no. : 0 421 833 383

Cust. part No. : 0230743202

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM442LA  
Power KW : 320.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : + - 0.1

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + - 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x Length mm : 1000

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 5.25  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315

Tolerance : + - 0.30

Check tolerance °NW : + - 0.50

Start of delivery mark

Barrel no. : 8

---

## BASIC SETTING

Rated speed rpm : 1080

---

Rack travel in mm : 13.75  
Tolerance mm : + - 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 225.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 550

Rack travel in mm : 4.10  
Tolerance mm : + - 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : + - 0.20

governor spring  
pre-tension  
click setting x : 2.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 225.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spred

Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 92.0  
tolerance degree : + - 4.0

##### LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 550  
rack travel mm : 4.10  
Tolerance mm : + - 0.10

rack travel mm : 2.00  
Rated speed rpm : 570  
Tolerance 1/min : + - 30

Rated speed rpm : 100

CRT mm min. : > 19.50

##### SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

##### TORQUE CONTROL

Rated speed rpm : 1080  
rack travel mm : 13.75  
Tolerance mm : + - 0.05

Rated speed rpm : 600  
rack travel mm : 14.00  
Tolerance mm : + - 0.10

Rated speed rpm : 940  
rack travel mm : 14.00  
Tolerance mm : + - 0.10

##### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 242.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.00  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 225.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 14.0

---

#### LOW IDLE

Rated speed rpm : 550  
rack travel mm : 4.10  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.95  
Test oil : ISO 4113

Combination No. : 0 402 736 890

Injection pump  
Pump designation : FES6P120A120RS7314  
EP type number : 0 412 726 901

Governor  
Governor design. : RQV400...1250PA964  
: -32K  
Governor no. : 0 421 815 486

Cust. part No. : 3282607

---

Customer-spec. information  
Customer : CUMMINS  
Motor : 6BTAA  
Power KW : 158.0

---

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0  
Tolerance bar : + 0.1

Overflow quantity  
min. l/h : 140  
Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x Length mm : 600

---

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.70  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 12.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

### Start of delivery blocking

\*NW after s.o.d. : 5.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

---

### BASIC SETTING

Rated speed rpm : 1250

---

Rack travel in mm : 14.60  
 Tolerance mm : + - 0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 400  
 Rack travel in mm : 6.50  
 Tolerance mm : + - 0.30  
 Del. quantity cm<sup>3</sup>/1000 strokes : 20.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance cm<sup>3</sup>/1000S. : 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
 guide sleeve travel mm : 1.39  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1314  
 guide sleeve travel mm : 7.65  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 864  
 guide sleeve travel mm : 4.76  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 550

guide sleeve travel mm : 3.33  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1700  
 guide sleeve travel mm : 11.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1430  
 Rack travel in mm : 13.60  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure hPa : 1500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 155.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 62.0  
 tolerance degree : + - 4.0

control lever position degree : 119.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 13.60  
 Rated speed rpm : 1295  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1480  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1550

---

### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 16.0  
tolerance degree :  $\pm$  4.0

### Testing:

Rated speed rpm : 400  
rack travel mm : 6.50  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 300

CRT mm min. : > 8.50

Rated speed rpm : 430

---

### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 14.60  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 750  
rack travel mm : 13.00  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 400  
rack travel mm : 12.45  
Tolerance mm :  $\pm$  0.15

---

### ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm : 1250  
Pressure hPa : 1500  
rack travel mm : 14.60  
Tolerance mm :  $\pm$  0.05

### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1250  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 1250  
Pressure hPa : 275  
rack travel mm : 11.80  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 485  
rack travel mm : 13.80  
Tolerance mm :  $\pm$  0.05

---

### START CUT-OUT

Rated speed rpm : < 340  
Check speed 1/min : < 360

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 136.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 79.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

### BREAKAWAY

Rack travel in mm : 13.60  
Rated speed rpm : 1295  
Tolerance 1/min :  $\pm$  5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 210.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 6.50  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.95  
Test oil : ISO 4113

Combination No. : 0 402 744 801

Injection pump  
Pump designation : FES4P120A320RS7380  
EP type number : 0 412 724 802

Governor  
Governor design. : RQV275...1200PA1232K  
Governor no. : 0 421 815 469

Cust. part No. : CCEP 5149A 66-237

## Customer-spec. information

Customer : RVI  
Motor : MIDR 04-02-26 B4  
Power KW : 110.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity  
min. l/h : 95  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 5.00  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 0.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50

## Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 236.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread : \_\_\_\_\_

Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 325  
 Rack travel in mm : -6.60  
 Tolerance mm : + 0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 40.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
 guide sleeve travel mm : 1.52  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1272  
 guide sleeve travel mm : 9.31  
 Tolerance mm : + 0.15  
 Rated speed rpm : 894  
 guide sleeve travel mm : 6.60  
 Tolerance mm : + 0.25  
 Rated speed rpm : 560  
 guide sleeve travel mm : 4.01  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1650  
 guide sleeve travel mm : 13.50  
 Tolerance mm : + 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1482  
 Rack travel in mm : 11.70

Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 236.0  
 Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : + 4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

---

##### CONTROL LEVER

control lever position degree : 299.0  
 tolerance degree : + 4.0

##### RATED SPEED

rack travel mm : -1.00  
 Rated speed rpm : 1260  
 Tolerance 1/min : + 5  
 rack travel mm : -8.70  
 Rated speed rpm : 1385  
 Tolerance 1/min : + 15  
 rack travel mm : -12.20  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1500

##### LOW IDLE

control lever position degree : 253.0  
 tolerance degree : + 4.0

##### Testing:

Rated speed rpm : 325  
 rack travel mm : -6.60  
 Tolerance mm : + 0.10  
 Rated speed rpm : 200  
 CRT mm min. : < -4.60

Rated speed rpm : 390

#### TORQUE CONTROL

Rated speed rpm : 1200

Rated speed rpm : 700  
rack travel mm : -1.15  
Tolerance mm : +- 0.10

Rated speed rpm : 350  
rack travel mm : -2.90  
Tolerance mm : +- 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1200  
Pressure hPa : 1200

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -4.20  
Tolerance mm : +- 0.20

Rated speed rpm : 1200

Pressure hPa : 320  
rack travel mm : -3.60  
Tolerance mm : +- 0.20

Pressure hPa : 520  
rack travel mm : -2.50  
Tolerance mm : +- 0.05

#### START CUT-OUT

Rated speed rpm : < 275  
Check speed 1/min : < 285

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 237.0  
Tolerance  
cm3/1000 strokes : +- 3.0

Check tolerance  
cm3/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 155.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1260  
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 100.0  
Tolerance  
cm3/1000 strokes : +- 15.0  
Check tolerance  
cm3/1000S. : +- 19.0

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : -6.60  
Tolerance mm : +- 0.20  
Del. quantity  
cm3/1000 strokes : 40.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 6.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.10.95  
Test oil : ISO 4113

Combination No. : 0 402 746 995

Injection pump  
Pump designation : FES6P120A320RS7343  
EP type number : 0 412 726 915

Governor  
Governor design. : RQV300...1000PA1160K  
Governor no. : 0 421 815 420

Cust. part No. : CCEP 5144A 66-232

## Customer-spec. information

Customer : RVI  
Motor : MIDR 062356 A/41  
Power KW : 280.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.50  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 11.00  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 350.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance cm<sup>3</sup>/1000S. : 9.0

Det. quantity cm<sup>3</sup>/1000 strokes : 33.0

Tolerance cm<sup>3</sup>/1000 strokes : +- 2.5

Check tolerance cm<sup>3</sup>/1000S. : +- 5.0

Spread Tolerance cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve travel mm : 1.32  
Tolerance mm : +- 0.25

Rated speed rpm : 1103  
guide sleeve travel mm : 8.70  
Tolerance mm : +- 0.25

Rated speed rpm : 823  
guide sleeve travel mm : 5.92  
Tolerance mm : +- 0.25

Rated speed rpm : 405  
guide sleeve travel mm : 2.43  
Tolerance mm : +- 0.25

Rated speed rpm : 455  
guide sleeve travel mm : 2.98  
Tolerance mm : +- 0.25

Rated speed rpm : 550  
guide sleeve travel mm : 3.66  
Tolerance mm : +- 0.25

Rated speed rpm : 1440  
guide sleeve travel mm : 13.50  
Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1300

Rack travel in mm : 11.60  
Tolerance mm : +- 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure hPa : 1200  
Det. quantity cm<sup>3</sup>/1000 strokes : 350.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 4.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 117.0  
tolerance degree : +- 4.0

##### RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1100  
Tolerance 1/min : +- 5

rack travel mm : -8.60  
Rated speed rpm : 1210  
Tolerance 1/min : +- 15

rack travel mm : -12.30  
Tolerance mm : +- 0.50  
Rated speed rpm : 1300

##### LOW IDLE

control lever position degree : 72.0  
tolerance degree : +- 4.0

##### Testing:

Rated speed rpm : 300  
rack travel mm : -7.80  
Tolerance mm : +- 0.20

Rated speed rpm : 200  
 CRT mm max. : < -6.80  
 Rated speed rpm : 390

#### TORQUE CONTROL

Rated speed rpm : 1000  
 Rated speed rpm : 600  
 rack travel mm : -0.45  
 Tolerance mm : +- 0.15  
 Rated speed rpm : 800  
 rack travel mm : 0.10  
 Tolerance mm : +- 0.15  
 Rated speed rpm : 350  
 rack travel mm : -1.70  
 Tolerance mm : +- 0.30

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 1000  
 Pressure hPa : 1200

##### MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 1000  
 rack travel mm : -3.90  
 Tolerance mm : +- 0.30

Rated speed rpm : 1000

Pressure hPa : 320  
 rack travel mm : -2.80  
 Tolerance mm : +- 0.15

Pressure hPa : 520  
 rack travel mm : -1.70  
 Tolerance mm : +- 0.05

##### START CUT-OUT

Rated speed rpm : < 225  
 Check speed 1/min : < 245

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
 Rated speed rpm : 600  
 Del. quantity cm<sup>3</sup>/1000 strokes : 381.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure hPa : -  
 Rated speed rpm : 500  
 Del. quantity cm<sup>3</sup>/1000 strokes : 245.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
 Rated speed rpm : 1100  
 Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 20.25  
 Tolerance mm : +- 0.75  
 Del. quantity cm<sup>3</sup>/1000 strokes : 185.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 15.0  
 Check tolerance cm<sup>3</sup>/1000S. : +- 19.0

#### LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 33.0  
 Tolerance cm<sup>3</sup>/1000 strokes : +- 2.5  
 Check tolerance cm<sup>3</sup>/1000S. : +- 5.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

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End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 25.10.95  
Test oil : ISO 4113

Combination No. : 0 401 876 794

Injection pump  
Pump designation : FE6P120A320RS3206-3  
EP type number : 0 411 826 809

Governor  
Governor design. : RSV250...1100P1A560  
: -2  
Governor no. : 0 421 833 471

Cust. part No. : 865560-P06 v. 12/94

## Customer-spec. information

Customer : PENTA  
Motor : TAD 730 P

## TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5  
x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 3.65  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 10.50  
Tolerance mm : + - 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance check  
tolerance °NW : + - 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.45  
Tolerance mm : + - 0.05

Del. quantity  
cm³/1000 strokes : 197.0

Tolerance  
cm³/1000 strokes : + - 1.0

Check tolerance  
cm³/1000s. : + - 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 5.20  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

governor spring  
pre-tension  
click setting x : 4.50

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
position degree : 119.0

tolerance degree : +- 4.0

##### RATED SPEED

rack travel mm : 8.45  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1195  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1300

##### LOW IDLE

control lever  
position degree : 82.0  
tolerance degree : +- 4.0

##### Testing:

Rated speed rpm : 250  
rack travel mm : 5.20  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 330  
Tolerance 1/min : +- 30

##### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 9.45  
Tolerance mm : +- 0.05

##### BREAKAWAY

Rack travel in mm : 8.45  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

##### LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.20  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.10.95  
Test oil : ISO 4113

Combination No. : 0 402 046 864

Injection pump  
Pump designation : FES6P120A320RS3337  
: -1  
EP type number : 0 412 026 772

Governor  
Governor design. : RQV300...1250PA1149  
: -1K  
Governor no. : 0 421 815 421

Cust. part No. : CCEP 5142A 66-219

## Customer-spec. information

Customer : RVI  
Motor : MIDR 06-02-26 W4  
Power KW : 155.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.15  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.00  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance check  
tolerance \*NW : + 0.50

Start of delivery mark

\*NW before FB : 0.40

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1250

Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.31  
Tolerance mm : +- 0.20

Rated speed rpm : 1328  
guide sleeve  
travel mm : 9.98  
Tolerance mm : +- 0.15

Rated speed rpm : 876  
guide sleeve  
travel mm : 6.02  
Tolerance mm : +- 0.25

Rated speed rpm : 510  
guide sleeve  
travel mm : 3.59  
Tolerance mm : +- 0.25

Rated speed rpm : 1600  
guide sleeve  
travel mm : 13.50  
Tolerance mm : +- 0.50

---

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1400

Rack travel in mm : 12.15  
Tolerance mm : +- 1.30

---

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.5

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

##### CONTROL LEVER

control lever  
position degree : 294.0  
tolerance degree : +- 4.0

##### RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1312  
Tolerance 1/min : +- 5

rack travel mm : -9.20  
Rated speed rpm : 1435  
Tolerance 1/min : +- 15

rack travel mm : -12.65  
Tolerance mm : +- 0.50  
Rated speed rpm : 1550

---

##### LOW IDLE

control lever  
position degree : 245.0  
tolerance degree : +- 4.0

##### Testing:

Rated speed rpm : 300  
rack travel mm : -6.40  
Tolerance mm : +- 0.20

Rated speed rpm : 200

CRT mm max. : < -5.60

Rated speed rpm : 400

#### TORQUE CONTROL

Rated speed rpm : 1250

Rated speed rpm : 850  
rack travel mm : -2.15  
Tolerance mm : + - 0.15

Rated speed rpm : 350  
rack travel mm : -2.20  
Tolerance mm : + - 0.30

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1000  
Pressure hPa : 1000  
rack travel mm : -1.40

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : -3.70  
Tolerance mm : + - 0.20

Rated speed rpm : 1000

Pressure hPa : 200  
rack travel mm : -2.90  
Tolerance mm : + - 0.10

Pressure hPa : 320  
rack travel mm : -1.80  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 225  
Check speed 1/min : < 245

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 850  
Del. quantity  
cm3/1000 strokes : 141.0  
Tolerance  
cm3/1000 strokes : + - 3.0

Check tolerance  
cm3/1000S. : + - 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1250  
Del. quantity  
cm3/1000 strokes : 138.5  
Tolerance  
cm3/1000 strokes : + - 1.0  
Check tolerance  
cm3/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1312  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 102.0  
Tolerance  
cm3/1000 strokes : + - 15.0  
Check tolerance  
cm3/1000S. : + - 19.0

#### LOW IDLE

Del. quantity  
cm3/1000 strokes : 27.5  
Tolerance  
cm3/1000 strokes : + - 2.0  
Check tolerance  
cm3/1000S. : + - 5.0  
Spread  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 19.10.95  
Test oil : ISO 4113

Combination No. : 0 402 046 874

Injection pump  
Pump designation : FES6P120A720RS3360  
EP type number : 0 412 026 785

Governor  
Governor design. : RQV300...1100PA1254K  
Governor no. : 0 421 815 485

Cust. part No. :

## Customer-spec. information

Customer : IVECO-UNIC  
Motor : 8360.46.4107  
Power KW : 198.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Overflow quantity  
min. l/h : 105  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.15  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 13.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery mark

Check  
tolerance °NW : + 0.40

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.45  
 Tolerance mm :  $\pm$  0.05  
 Del. quantity cm<sup>3</sup>/1000 strokes : 174.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 7.50  
 Tolerance mm :  $\pm$  0.20  
 Del. quantity cm<sup>3</sup>/1000 strokes : 25.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance cm<sup>3</sup>/1000S. : 12.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
 guide sleeve travel mm : 2.83  
 Tolerance mm :  $\pm$  0.20  
 Rated speed rpm : 1185  
 guide sleeve travel mm : 9.40  
 Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 680  
 guide sleeve travel mm : 4.45  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 300

guide sleeve travel mm : 2.79  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1450  
 guide sleeve travel mm : 13.50  
 Tolerance mm :  $\pm$  0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1305  
 Rack travel in mm : 12.45  
 Tolerance mm :  $\pm$  2.70

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure hPa : 1200  
 Del. quantity cm<sup>3</sup>/1000 strokes : 174.0  
 Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
 Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0  
 Spread  
 Tolerance cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever position degree : 117.0  
 tolerance degree :  $\pm$  4.0

##### RATED SPEED

rack travel mm : 12.40  
 Rated speed rpm : 1145  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1260  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1400

##### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : +- 4.0

#### Testing:

Rated speed rpm : 300  
rack travel mm : 6.40  
Tolerance mm : +- 0.10

Rated speed rpm : 225

CRT mm min. : > 7.90

Rated speed rpm : 330

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 13.45  
Tolerance mm : +- 0.05

Rated speed rpm : 750  
rack travel mm : 13.60  
Tolerance mm : +- 0.15

Rated speed rpm : 500  
rack travel mm : 12.80  
Tolerance mm : +- 0.15

Rated speed rpm : 300  
rack travel mm : 12.60  
Tolerance mm : +- 0.20

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 13.45  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 10.50  
Tolerance mm : +- 0.10

Rated speed rpm : 1100

Pressure hPa : 640  
rack travel mm : 12.75

Tolerance mm : +- 0.05

Pressure hPa : 340  
rack travel mm : 11.30  
Tolerance mm : +- 0.20

#### START CUT-OUT

Rated speed rpm : < 235  
Check speed 1/min : < 245

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 190.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure hPa : 1200  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 82.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 4.0

#### BREAKAWAY

Rack travel in mm : 12.40  
Rated speed rpm : 1145  
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.20

Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.50  
Tolerance mm : + - 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 23.10.95  
Test oil : ISO 4113

Combination No. : 0 402 066 708

Injection pump  
Pump designation : PES6P120A120RS3358  
EP type number : 0 412 026 784

Governor  
Governor design. : RSV475...1150P2A619  
Governor no. : 0 421 833 522

Cust. part No. : 3283019

## Customer-spec. information

Customer : CDC  
Motor : 6BTA-590 ELITE  
Power KW : 136.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 2.85  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

°NW after s.o.d. : 6.75

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 10.80  
Tolerance mm : + 0.05

Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 475  
 Rack travel mm : 5.60  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.5  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

governor spring  
 pre-tension  
 click setting x : 4.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : 1500  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 3.0  
 Spred  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

##### CONTROL LEVER

NO?

control lever  
 position degree : 105.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm	:	9.80
Rated speed rpm	:	1195
Tolerance 1/min	:	+ - 5
rack travel mm	:	4.00
Rated speed rpm	:	1290
Tolerance 1/min	:	+ - 15
rack travel mm	:	0.85
Tolerance mm	:	+ - 0.55
Rated speed rpm	:	1400

##### LOW IDLE

control lever  
 position degree : 87.0  
 tolerance degree : + - 4.0

##### Testing:

Rated speed rpm	:	475
rack travel mm	:	5.60
Tolerance mm	:	+ - 0.10
rack travel mm	:	2.00
Rated speed rpm	:	570
Tolerance 1/min	:	+ - 30

##### TORQUE CONTROL

Rated speed rpm	:	1150
rack travel mm	:	10.80
Tolerance mm	:	+ - 0.05
Rated speed rpm	:	750
rack travel mm	:	10.80
Tolerance mm	:	+ - 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm	:	500
Pressure hPa	:	1500
rack travel mm	:	10.80
Tolerance mm	:	+ - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.60  
Tolerance mm : + - 0.20

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 10.20  
Tolerance mm : + - 0.20

Pressure hPa : 600  
rack travel mm : 9.15  
Tolerance mm : + - 0.05

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 151.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1195  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

N08

rack travel mm : 20.25  
Tolerance mm : + - 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 25.0

#### LOW IDLE

Rated speed rpm : 475  
rack travel mm : 5.60  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

### Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.10.95  
Test oil : ISO 4113

Combination No. : 0 402 646 623

Injection pump  
Pump designation : PE6P120A320RS7288  
EP type number : -10  
: 0 412 626 918

Governor  
Governner design. : RQV250...900PA1069  
: -1  
Governner no. : 0 421 814 070

Cust. part No. : 866141 P04 v. 10/94

### Customer-spec. information

Customer : PENTA  
Motor : TAD 1030P

### TEST BENCH REQUIREMENTS

Inlet Line : 3.1

Vibration  
damper  
(RoBo diaphragm) : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.5  
Tolerance bar : + 0.1

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x Length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.45  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30

Check  
tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.12  
Tolerance mm : + - 0.25

Rated speed rpm : 949  
guide sleeve  
travel mm : 7.39  
Tolerance mm : + - 0.25

Rated speed rpm : 657  
guide sleeve  
travel mm : 5.07  
Tolerance mm : + - 0.25

Rated speed rpm : 315  
guide sleeve  
travel mm : 1.98  
Tolerance mm : + - 0.25

Rated speed rpm : 365  
guide sleeve  
travel mm : 2.63  
Tolerance mm : + - 0.25

Rated speed rpm : 420  
guide sleeve  
travel mm : 3.17  
Tolerance mm : + - 0.25

Rated speed rpm : 1290  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1150

Rack travel in mm : 9.00  
Tolerance mm : + - 3.00

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 290.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

##### CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 12.45  
Rated speed rpm : 935  
Tolerance 1/min : + - 5

rack travel mm : 4.00  
Rated speed rpm : 1075  
Tolerance 1/min : + - 15

rack travel mm : 0.50  
Tolerance mm : + - 0.50  
Rated speed rpm : 1150

##### LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : + - 4.0

##### Testing:

Rated speed rpm : 250  
rack travel mm : 7.70  
Tolerance mm : + - 0.30

Rated speed rpm : 150

CRT mm min. : > 9.00

Rated speed rpm : 350

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.45  
Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.00  
Tolerance mm : + - 0.10

Rated speed rpm : 500

Pressure hPa : 200  
rack travel mm : 10.30  
Tolerance mm : + - 0.10

Pressure hPa : 1090  
rack travel mm : 13.15  
Tolerance mm : + - 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 176.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

---

BREAKAWAY

Rack travel in mm : 12.45  
Rated speed rpm : 935  
Tolerance 1/min : + - 5

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 19.10.95  
Test oil : ISO 4113

Combination No. : 0 402 736 892

Injection pump  
Pump designation : FES6P120A120RS7400  
EP type number : 0 412 726 950

Governor  
Governor design. : RQV350...1100PA1244  
: -1K  
Governor no. : 0 421 815 488

Cust. part No. : 3282610

## Customer-spec. information

Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 221.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.30  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

\*NW after s.o.d. : 11.00  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.60  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 209.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 350  
 Rack travel in mm : 4.80  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 25.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.93  
 Tolerance mm : + - 0.20  
 Rated speed rpm : 1159  
 guide sleeve  
 travel mm : 10.28  
 Tolerance mm : + - 0.15  
 Rated speed rpm : 710  
 guide sleeve  
 travel mm : 5.80  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 430  
 guide sleeve  
 travel mm : 4.33  
 Tolerance mm : + - 0.25  
 Rated speed rpm : 1380

guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1220  
 Rack travel in mm : 13.60  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 209.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 66.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 120.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 13.60  
 Rated speed rpm : 1145  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1245  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : + - 4.0

control lever  
position degree : 20.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm min. : > 8.10

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 14.60  
Tolerance mm : + - 0.05

Rated speed rpm : 750  
rack travel mm : 14.05  
Tolerance mm : + - 0.10

Rated speed rpm : 900  
rack travel mm : 14.35  
Tolerance mm : + - 0.15

Rated speed rpm : 600  
rack travel mm : 13.95  
Tolerance mm : + - 0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1500  
rack travel mm : 14.60  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 10.45  
Tolerance mm : + - 0.20

Rated speed rpm : 1100

Pressure hPa : 880  
rack travel mm : 13.20  
Tolerance mm : + - 0.20

Pressure hPa : 240  
rack travel mm : 11.20  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 280  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 198.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.0  
Tolerance cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 13.60  
Rated speed rpm : 1145  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.00  
Tolerance mm : + - 0.50

Del. quantity  
cm<sup>3</sup>/1000 strokes : 255.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.10.95  
Test oil : ISO 4113

Combination No. : 0 402 736 893

Injection pump  
Pump designation : PES6P120A120RS7400  
EP type number : 0 412 726 950

Governor  
Governor design. : RQV350...1100PA1244  
: -2K  
Governor no. : 0 421 815 489

Cust. part No. : 3282609

## Customer-spec. information

Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 206.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + - 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance l/h : + - 20.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + - 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + - 1.0

Prestroke mm : 3.30  
Tolerance mm : + - 0.05

test only : + - 0.10

Rack travel in mm : 20.50  
Tolerance mm : + - 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance Check  
tolerance °NW : + - 0.30

tolerance °NW : + - 0.50

Start of delivery blocking

\*NW after s.o.d. : 11.00  
Tolerance : + - 0.50

Check  
tolerance °NW : + - 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.40  
Tolerance mm : + - 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 211.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 350  
 \_\_\_\_\_  
 Rack travel in mm : 4.80  
 Tolerance mm : + - 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 25.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 3.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 5.0  
 \_\_\_\_\_  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.93  
 Tolerance mm : + - 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1159  
 guide sleeve  
 travel mm : 10.28  
 Tolerance mm : + - 0.15  
 \_\_\_\_\_  
 Rated speed rpm : 710  
 guide sleeve  
 travel mm : 5.79  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 430  
 guide sleeve  
 travel mm : 4.33  
 Tolerance mm : + - 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1380

guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + - 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1215  
 \_\_\_\_\_  
 Rack travel in mm : 13.30  
 Tolerance mm : + - 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 211.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + - 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + - 4.0  
 \_\_\_\_\_  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 66.0  
 tolerance degree : + - 4.0

control lever  
 position degree : 120.0  
 tolerance degree : + - 4.0

##### RATED SPEED

rack travel mm : 13.40  
 Rated speed rpm : 1145  
 Tolerance 1/min : + - 5

rack travel mm : 4.00  
 Rated speed rpm : 1245  
 Tolerance 1/min : + - 15

rack travel mm : 0.50  
 Tolerance mm : + - 0.50  
 Rated speed rpm : 1350

##### LOW IDLE

control lever  
position degree : 74.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 20.0  
tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 250

CRT mm min. : > 8.20

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 14.40  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 650  
rack travel mm : 13.90  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 900  
rack travel mm : 14.30  
Tolerance mm :  $\pm$  0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1050  
Pressure hPa : 1500  
rack travel mm : 14.40  
Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1050  
rack travel mm : 10.40  
Tolerance mm :  $\pm$  0.20

Rated speed rpm : 1050

Pressure hPa : 880  
rack travel mm : 13.20  
Tolerance mm :  $\pm$  0.20

Pressure hPa : 240  
rack travel mm : 11.20  
Tolerance mm :  $\pm$  0.05

#### START CUT-OUT

Rated speed rpm : < 280  
Check speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 650  
Del. quantity cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spread  
Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 111.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

#### BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1145  
Tolerance 1/min :  $\pm$  5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.80  
Tolerance mm :  $\pm$  0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 255.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  20.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

End of test specification sheet

## BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and  
adjustment instructions.  
See microcard(s) W400/...

Edition : 23.10.95  
Test oil : ISO 4113

Combination No. : 0 402 736 894

Injection pump  
Pump designation : FES6P120A120RS7400  
EP type number : 0 412 726 950

Governor  
Governor design. : RQV350...1200PA1261  
Governor no. : 0 421 815 495

Cust. part No. : 3282766

## Customer-spec. information

Customer : CUMMINS  
Motor : 6CTAA  
Power KW : 191.0

## TEST BENCH REQUIREMENTS

Inlet Line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Tolerance l/h : + 20.0

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.30  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

## Start of delivery blocking

°NW after s.o.d. : 11.00

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 13.60  
Tolerance mm : + 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 190.0  
 \_\_\_\_\_  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 \_\_\_\_\_  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 \_\_\_\_\_  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 \_\_\_\_\_  
 Rated speed rpm : 350  
 \_\_\_\_\_  
 Rack travel in mm : 4.80  
 Tolerance mm : +- 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 25.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
 guide sleeve  
 travel mm : 1.93  
 Tolerance mm : +- 0.20  
 \_\_\_\_\_  
 Rated speed rpm : 1258  
 guide sleeve  
 travel mm : 10.14  
 Tolerance mm : +- 0.15  
 \_\_\_\_\_  
 Rated speed rpm : 766  
 guide sleeve  
 travel mm : 5.91  
 Tolerance mm : +- 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 450  
 guide sleeve  
 travel mm : 4.49  
 Tolerance mm : +- 0.25  
 \_\_\_\_\_  
 Rated speed rpm : 1520

guide sleeve  
 travel mm : 13.50  
 Tolerance mm : +- 0.50

##### GUIDE SLEEVE POSITION

Rated speed rpm : 1350  
 \_\_\_\_\_  
 Rack travel in mm : 12.60  
 Tolerance mm : +- 1.30

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 190.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

##### CONTROL LEVER

control lever  
 position degree : 65.0  
 tolerance degree : +- 4.0

control lever  
 position degree : 119.0  
 tolerance degree : +- 4.0

##### RATED SPEED

rack travel mm : 12.60  
 Rated speed rpm : 1245  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : +- 15

rack travel mm : 0.50  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1450

##### LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : + - 4.0

control lever  
position degree : 22.0  
tolerance degree : + - 4.0

#### Testing:

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm : + - 0.10

Rated speed rpm : 250

CRT mm/min. : > 9.20

Rated speed rpm : 350

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

Rated speed rpm : 600  
rack travel mm : 13.10  
Tolerance mm : + - 0.10

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm : + - 0.15

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 1500  
rack travel mm : 13.60  
Tolerance mm : + - 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 10.40  
Tolerance mm : + - 0.20

Rated speed rpm : 1150

Pressure hPa : 880  
rack travel mm : 13.20  
Tolerance mm : + - 0.20

Pressure hPa : 240  
rack travel mm : 11.20  
Tolerance mm : + - 0.05

#### START CUT-OUT

Rated speed rpm : < 280  
Check  
speed 1/min : < 300

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 176.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 111.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 4.0

#### BREAKAWAY

Rack travel in mm : 12.60  
Rated speed rpm : 1245  
Tolerance 1/min : + - 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.10  
Tolerance mm : + - 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 255.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 20.0

Check tolerance  
cm<sup>3</sup>/1000S. : + - 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.80  
Tolerance mm : + - 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + - 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + - 5.0  
Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

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End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.10.95  
Test oil : ISO 4113

Combination No. : 0 403 466 156

Injection pump  
Pump designation : PES6MW100/120RS1238  
EP type number : 0 413 406 237

Governor  
Governor design. : RSV450...1100MW2A374  
Governor no. : 0 420 085 257

Cust. part No. : 3926881

## Customer-spec. information

Customer : CDC  
Motor : 6 CT-830  
Power KW : 160.0

## TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0

Prestroke mm : 2.80  
Tolerance mm : + 0.05

test only : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

## Start of delivery blocking

°NW after s.o.d. : 8.00

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 143.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 450

Rack travel in mm : 5.30  
Tolerance mm : +- 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance

cm<sup>3</sup>/1000 strokes : +- 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

#### (B) SETTING OF INJECTION PUMP WITH GOVERNOR

##### GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.65  
Tolerance mm : +- 0.35

governor spring  
pre-tension  
click setting x : 4.75

##### FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure

hPa : 1100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 143.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spred  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

##### CONTROL LEVER

control lever  
position degree : 104.0  
tolerance degree : +- 4.0

##### RATED SPEED

rack travel mm : 10.90  
Rated speed rpm : 1150  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1270  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1400

rack travel mm : 4.00  
Rated speed rpm : 1225

##### LOW IDLE

control lever  
position degree : 82.0  
tolerance degree : +- 4.0

##### Testing:

Rated speed rpm : 450  
rack travel mm : 5.30  
Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 19.50

##### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.90  
Tolerance mm : +- 0.05

Rated speed rpm : 750  
rack travel mm : 12.40  
Tolerance mm : +- 0.10

##### ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

Rated speed rpm : 500  
Pressure hPa : 1100  
rack travel mm : 12.45  
Tolerance mm : + 0.05

## MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 850  
rack travel mm : 12.00  
Tolerance mm : + 0.20

Pressure hPa : 625  
rack travel mm : 11.00  
Tolerance mm : + 0.10

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

## BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1150  
Tolerance 1/min : + 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : + 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 13.0

## LOW IDLE

Rated speed rpm : 450  
rack travel mm : 5.30  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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